THE
THEORY or SYSTEM
Of ſeveral New
Inhabited Worlds,
Lately Diſcover'd and Pleaſantly Deſcrib'd,
IN
Five Nights Converſation
WITH
Madam the Marchioneſs of ****

Written in French by the famous Monſ. Fontanelle.

Made Engliſh by Mrs. Behn.

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M. DCC.

A

THEORY of the SYSTEM

Of ſeveral new

Inhabited WORLDS.

Written Originally in French.

The First NIGHT.

WE went one Evening after Supper to walk in the Park, the Air was cool and refreſhing, which made us ſufficient amends for the exceſſive Heat of the Day, and of which I find I ſhall be obliged to make you a Deſcription, which I cannot well avoid, the Fineneſs of it leading me ſo neceſſarily to it:

The Moon was about an hour high, which ſhining thro' the Boughs of the Trees, made a moſt agreeable Mixture, and checker'd the Paths beneath with a moſt reſplendent White upon the Green, which appeared to be Black by that Light; there was no Cloud to be ſeen that could hide from us, or obſcure the ſmal-

leſt of the Stars, which lookt all like pure poliſht Gold, whoſe Luſtre was extreamly heightned by the deep Azure Field on which they were placed: Theſe pleaſant Objects ſet me a Thinking, and had it not been for Madam *la Marquiſe*, I might have continued longer in that ſilent Contemplation; but the Preſence of a Perſon of her Wit and Beauty hinder'd me from giving up my Thoughts intirely to the Moon and Stars. Do not you believe, Madam, ſaid I, that the Clearneſs of this Night exceeds the Glory of the brighteſt Day?

I confeſs, ſaid ſhe, the Day muſt yield to ſuch a Night; the Day which reſembles a fair Beauty, which though more ſparkling, is not ſo charming as one of a brown Complexion, who is a true Emblem of the Night.

You are very generous, Madam, ſaid I, to give the advantage to the Brown, you who are ſo admirable Fair your ſelf: Yet without diſpute, Day is the moſt beautiful Thing in Nature; and moſt of the Heroines in Romances, which are modell'd after the moſt perfect Idea Fancy can repreſent by the moſt Ingenious of Mankind, are generally deſcrib'd to be Fair.

But, ſaid ſhe, Beauty is inſipid, if it want the pleaſure and power of Charming; and you muſt acknowledge, that the brighteſt Day that ever you ſaw could never have engag'd you in ſo agreeable an Ecſtaſie, as you were juſt now like to have fal'n into by the powerful attractions of this Night.

I agree to what you ſay, Madam, ſaid I; but I muſt own at the ſame time, that a Beauty of your Complexion would give me another ſort of

of Tranſport than the fineſt Night with all the advantages Obſcurity can give it.

Though that were true, ſaid ſhe, I ſhould not be ſatisfied; ſince thoſe fair Beauties that ſo reſemble the Day, produce not thoſe ſoft Effects of the other. How comes it, that Lovers, who are the beſt Judges of what is pleaſing and touching, do always addreſs themſelves to the Night, in all their Songs and Elegies?

I told her, That they moſt certainly paid their Acknowledgments to the Night; for ſhe was ever moſt favourable to all their Deſigns.

But, Sir, replied Madam *la Marquiſe*, ſhe receives alſo all their Complaints, as a true Confident of all their Entrigues; from whence proceeds that?

The ſilence and gloom of the Night, ſaid I, inſpires the reſtleſs Sigher with Thoughts very paſſionate and languiſhing, which the buſier Day diverts a thouſand little ways (tho' one would think the Night ſhould charm all things to Repoſe) and tho' the Day affords Solitudes, dark Receſſes, Groves and Grottoes, equally obſcure and ſilent as the Night itſelf; yet we fanſie that the Stars move with a more ſilent motion than the Sun, and that all the Objects which the Heavens repreſent to our View, are ſofter, and ſtay our Sight more eaſily; and flattering ourſelves that we are the only Perſons at that time awake, we are vain enough to give a looſe to a thouſand Thoughts extravagant and eaſing. Beſides, the Scene of the Univerſe by Day-light appears too Uniform, we beholding but one great Luminary in an arch'd Vault of Azure, of a vaſt Extent, while all the Stars ap-

pear confuſedly diſperſed, and diſpoſed as it were by Chance in a thouſand different Figures, which aſſiſts our roving Fancies to fall agreeably into ſilent Thoughts.

Sir, replied Madam *la Marquiſe*, I have always felt thoſe Effects of Night you tell me off; I love the Stars, and could be heartily angry with the Sun for taking them from my ſight.

Ah, cry'd I, I cannot forgive his taking from me the ſight of all thoſe Worlds that are there.

Worlds! ſaid ſhe; what Worlds? And looking earneſtly upon me, asked me again, what I meant?

I ask your Pardon, Madam, ſaid I, I was inſenſibly led to this fond Diſcovery of my Weakneſs.

What Weakneſs? ſaid ſhe, more earneſtly than before.

Alas, ſaid I, I am ſorry that I muſt confeſs I have imagined to my ſelf, that every Star may perchance be another World, yet I would not ſwear that it is ſo; but I will believe it to be true, becauſe that Opinion is ſo pleaſant to me, and gives me very diverting Ideas, which have fixed themſelves delightfully in my Imaginations; and 'tis neceſſary that every ſolid Truth ſhould have its Agreeableneſs.

Well, ſaid ſhe, ſince your Folly is ſo pleaſing to you, give me a ſhare of it; I will believe whatever you pleaſe concerning the Stars, if I find it pleaſant.

Ah, Madam, ſaid I, haſtily, 'tis not ſuch a Pleaſure as you find in one of *Mullier*'s Plays; 'tis a Pleaſure that is — I know not where, in our Reaſon, and which only tranſports the Mind.

What,

What, replied ſhe, do you think me then incapable of all thoſe Pleaſures which entertain our Reaſon, and only treat the Mind? I will inſtantly ſhew you the contrary, at leaſt as ſoon as you have told me what you know of your Stars.

Ah, Madam, cry'd I, I ſhall never endure to be reproach'd with that Neglect of my one Happineſs, that in a Grove, at ten a Clock of the Night, I talk'd of nothing but Philoſophy, to the greateſt Beauty in the World; No, Madam, ſearch for Philoſophy ſomewhere elſe.

But 'twas in vain to put her off by Excuſes, from a Novelty ſhe was already but to much prepoſſeſt with: There was a neceſſity of yielding, and all I could do was to prevail with her to be ſecret for the ſaving of my Honour; but when I found myſelf engag'd paſt Retreat, and had a deſign to ſpeak, I knew not where to begin my Diſcourſe, for to prove to her (who underſtood nothing of Natural Philoſophy) that the Earth was a Planet, and all the other Planets ſo many Earths, and all the Stars Worlds, it was neceſſary for the explaining myſelf, to bring my Arguments a great way off; and therefore I ſtill endeavour'd to perſwade her that 'twas much better to paſs the time in another manner of Converſation, which the moſt reaſonable People in our Circumſtances would do; but I pleaded to no purpoſe: and at laſt to ſatisfie her, and to give her a general Idea of Philoſophy, I made uſe of this way of arguing:

All Philoſophy is grounded on two Principiples, that of a paſſionate Thirſt of Know-

ledge of the Mind, and the Weakneſs of the Organs of the Body; for if the Eye-ſight were in perfection, you could as eaſily diſcern there were Worlds in the Stars, as that there are Stars: On the other hand, if you were leſs curious and deſirous of Knowledge, you would be indifferent, whether it were ſo or not; which indeed comes all to the ſame purpoſe: but we would gladly know more than we ſee, and there's the Difficulty; for if we could ſee well and truly what we ſee, we ſhould know enough; but we ſee moſt Objects quite otherwiſe than they are: ſo that the true Philoſophers ſpend their time in not believing what they ſee, and in endeavouring to gueſs at the Knowledge of what they ſee not; and in my Opinion this kind of Life is not much to be envied; but I fanſie ſtill to my ſelf that Nature is a great Scene, or Repreſentation, much like one of our Opera's; for, from the place where you ſit to behold the Opera, you do not ſee the Stage, as really it is, ſince every thing is diſpoſed there for the repreſenting agreeable Objects to your Sight, from a large diſtance, while the Wheels and Weights, which move and counterpoiſe the Machines are all concealed from our View; nor do we trouble our ſelves ſo much to find out how all thoſe Motions that we ſee there, are performed; and it may be among ſo vaſt a number of Spectators, there is not above one Enginier in the whole Pit, that troubles himſelf with the Conſideration how thoſe Flights are manag'd that ſeem ſo new and ſo extraordinary to him, and who reſolves at any rate to find out the Contrivance

of

of them: You cannot but gueſs, Madam, that this Enginier is not unlike a Philoſopher; but that which makes the Difficulty incomparably greater to Philoſophers, is, that the Ropes, Pullies, Wheels and Weights, which give Motion to the different Scenes repreſented to us by Nature, are ſo well hid both from our Sight and Underſtanding, that it was a long time before Mankind could ſo much as gueſs at the Cauſes that mov'd the vaſt Frame of the Univerſe.

Pray, Madam, imagine to yourſelf, the ancient Philoſophers beholding one of our Opera's, ſuch an one as *Pythagoras*, *Plato*, *Ariſtotle*, and many more, whoſe Names and Reputations make ſo great a Noiſe in the World; and ſuppoſe they were to behold the Flying of *Phaeton*, who is carried aloft by the Winds, and that they could not diſcern the Ropes and Pullies, but were altogether ignorant of the Contrivance of the Machine behind the Scenes, one of them would be apt to ſay, "It is a cer- "tain ſecret Virtue that carries up *Phaeton*. Another, "That *Phaeton* is compoſed of certain "Numbers, which make him mount upwards. The third, "That *Phaeton* has a certain Kindneſs for the higheſt part of the Theatre, and is uneaſie when he is not there. And a Fourth "That *Phaeton* was not made for Flying, but "that he had rather flie, than leave the up- "per part of the Stage void. Beſides a hundred other Notions, which I wonder have not entirely ruined the Reputation of the Ancients. In our Age *Des Cartes*, and ſome other Moderns would ſay, "That *Phaeton*'s Flight upwards is

"because he is hoiſted by Ropes, and that "while he aſcends, a greater Weight than he "deſcends. And now Men do not believe that any Corporeal Being moves itſelf, unleſs it be ſet on Motion, or puſht by another Body, or drawn by Ropes, nor that any heavy thing Aſcends or Deſcends, without a Counterpoiſe equal with it in Weight to balance it; or that 'tis guided by Springs. And could we ſee Nature as it is, we ſhould ſee nothing but the hinder part of the Theatre at the Opera.

By what you ſay, ſaid Madam *la Marquiſe*, Phyloſophy is become very Mechanical.

So very Mechanichal, ſaid I, that I am afraid Men will quickly be aſhamed of it; for ſome would have the Univerſe no other thing in Great, than a Watch is in Little; and that all things in it are ordered by Regular Motion, which depends upon the juſt and equal Diſpoſal of its Parts. Confeſs the Truth, Madam, have not you had heretofore a more ſublime Idea of the Univerſe, and have not you honour'd it with a better Opinion than it deſerv'd? I have known ſeveral eſteem it leſs ſince they believed they knew it better.

And for my part, ſaid ſhe, I eſteem it more ſince I knew it is ſo like a Watch: And 'tis moſt ſurpriſing to me, that the Courſe and Order of Nature, how ever admirable it appears to be, moves upon Principles and Things that are ſo very eaſie and ſimple.

I know not, replied I, who has given you ſo juſt Ideas of it; but 'tis not ordinary to have ſuch: Moſt People retain in their Minds ſome falſe Principle or other of Admiration, wrap-

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ed up in Obſcurity, which they adore; they admire Nature, only becauſe they look on it as a kind of Miracle, which they do not underſtand; and 'tis certain that thoſe ſort of People never deſpiſe any thing, but from the moment they begin to underſtand it. But, Madam, I find you ſo well diſpoſed to comprehend all I have to ſay to you, that without further Preface, I need only draw the Curtain, and ſhew you the World.

From the Earth where we are, that which we ſee at the greateſt diſtance from us, is that Azure Heaven, or that vaſt Vault where the Stars are plac'd as ſo many Golden Nails, which are call'd Fixt, becauſe they ſeem to have no other Motion, but that of their proper Sphere, which carries them along with it, from Eaſt to Weſt; between the Earth and the laſt, or loweſt Heaven are hung, at different Heights, the Sun, the Moon, and five other Stars, which are called Planets, *Mercury Venus*, *Mars*, *Jupiter*, and *Saturn*: Theſe Planets not being fixt to any one Sphere, and having unequal Motions, they are indifferent Aſpects, one to another, and according as they are in Conjunction, or at diſtance, they make different Figures; whereas the fixt Stars are always in the ſame Poſition, one towards another: As for Example, *Charles's Wain*, or the Conſtellation of the Great Bear, which you ſee, and which conſiſts of ſeven Stars, has always been, and will ſtill continue the ſame; but the Moon is ſometimes near the Sun, and ſometimes at a great diſtance from it, and ſo thro' all the reſt of the Planets: It was in this manner that the Celeſtial Bodies appeared

to

to the ancient *Chaldean* Shepherds, whoſe great leiſure produced theſe firſt Obſervations, which have ſince been ſo well improved; and upon which all Aſtronomy is founded: For Aſtronomy had its beginning in *Chaldea*, as Geometry was invented in *Egypt*, where the Inundations of the River *Nile*, having confounded and removed the Limits and the Land-marks of the ſeveral Poſſeſſions of the Inhabitants, did prompt them to find out ſure and exact Meaſures, by which every one might know his one Field from that of his Neighbour's: So that Aſtronomy is the Daughter of Idleneſs, Geometry is the Child of Intereſt; and ſhould we inquire into the Original of Poetry, we ſhould in all appearance find, that it owes its beginning to Love.

I am extremely glad, ſaid Madam *la Merquiſe*, that I have learn'd the Genealogy of the Sciences, and I find that I muſt content myſelf with Aſtronomy: Geometry, according to what you have ſaid, requiring a Soul more intereſted in worldly Concerns, than I am; and for Poetry, 'tis moſt proper for thoſe of a more Amorous Inclination; but I have all the leiſure and time to ſpare, that Aſtronomy requires: Beſides that, I live now happily retired in the Fields and Groves, and lead a ſort of Paſtoral Life, ſo very agreeable to Aſtronomy.

Do not deceive yourſelf, Madam, ſaid I; 'tis not a true Paſtoral Life, to talk of Planets and fixed Stars: Be pleaſed to conſider, that the Shepherds in the Story of *Aſtræa* did not paſs their time in that kind of Divertiſement; they had Buſineſs, of a ſofter and more agreeable Nature.

Oh

Oh, ſaid ſhe, the Life of the Paſtorals of *Aſtræa* is too dangerous: I like that of the *Chaldean* Shepherds better, of whom you ſpoke but now: Go on with them, for I will hear nothing from you but *Chaldean:* So ſoon as that Order, and theſe Motions of the Heavens were diſcovered, what was the next thing to be conſidered?

The next thing, ſaid I, was, to gueſs how the ſeveral Parts of the Univerſe were to be diſpoſed and ranged in order; and that is what the Learned call, The Making a Syſtem: But before, Madam, I explain to you the firſt Syſtem, be pleaſed to obſerve, That we are all naturally made like a certain *Athenian* Fool, of whom you have heard, who fanſied that all the Ships that came into the Port of *Piraa*, belonged to him; for we are ſo vain as to believe, that all this vaſt Frame of Nature was deſtin'd to our uſe: For if a Philoſopher be asked, For what all this prodigious number of fixed Stars ſerve? (ſince a very few would ſupply the buſineſs of the whole;) he will tell you gravely, That they were made to pleaſe our Sight. Upon this Principle, at firſt, Man believed, that the Earth was immoveably fixed in the Centre of the Univerſe, whilſt all the Celeſtial Bodies (made only for her) were at the pains of turning continually round, to give Light to the Earth: And that it was therefore above the Earth, they placed the Moon; above the Moon, *Mercury*; then *Venus*, the Sun, *Mars*, *Jupiter*, *Saturn*; and above all the Sphere of the fixed Stars: The Earth, according to this Opinion, was juſt in the middle of the ſeveral Circles, de-

deſcribed by the Planets; and the greater theſe Circles were, the further they were diſtant from the Earth; and by Conſequence, they took a longer time in compleating their Round; which is certainly true.

I know not, ſaid Madam *la Marquiſe*, why you ſhould not approve of this Order of the Univerſe, which ſeems to be ſo clear and intelligible; for my part, I am extreamly pleaſed and ſatisfied with it.

Madam, ſaid I, without Vanity, I have very much ſoftned and explained this Syſtem: Should I expoſe it to you, ſuch as it was firſt invented by its Author *Ptolemy*, or by thoſe that have followed his Principles, it would frighten you: The Motion of the Planets being irregular, they move ſometimes faſt, ſometimes ſlow; ſometimes towards one ſide, ſometimes to another; at one time near the Earth, at another far from it. The Ancients did imagine I know not how many Circles, differently interwoven one with another; by which they fanſy'd to themſelves, they underſtood all the irregular Phœnomena's or Appearnces in Nature. And the Confuſion of theſe Circles was ſo great, that at that time, when Men knew no better, a King of *Arragon*, a Great Mathematician (not over devout) ſaid, *That if GOD had call'd him to his Council, when he form'd the Univerſe, he could have given him good Advice.* The Thought was impious; yet 'tis odd to reflect, that the Confuſion of *Ptolomy*'s Syſtem gave occaſion for the Sin of that King: The good Advice he would have given, was, no doubt, for ſurpaſſing theſe different Circles, which had ſo embarraſs'd

barraſs'd the Celeſtial Motions; and it may be alſo, with regard to the two or three ſuperfluous Spheres, which they had plac'd above the fixed Stars. The Philoſophers, to explain one kind of Motion of the Heavenly Bodies, did fanſie a Sphere of Chriſtal above that Heaven which we ſee, which ſet the inferior Heaven on Motion; and if any one made a new Diſcovery of any other Motion, they immediatly made a new Sphere of Chriſtal: in ſhort, theſe Chriſtaline Heavens coſt them nothing.

But why Spheres of Chriſtal? ſaid Madam *la Marquieſe*. Would no other Subſtance ſerve?

No, ſaid I, Madam; for there was a neceſſity of their being tranſparent, that the Light might penetrate; as it was requiſite for them to be ſolid Beams. *Ariſtotle* had found out, that Solidity was inherent in the Excellency of their Nature; and becauſe he ſaid it, no body would adventure to queſtion the truth of it. But there have appear'd Comets, which we know to have been vaſtly higher from the Earth, than was believed by the Ancients: Theſe in their courſe, wou'd have broke all thoſe Chriſtal Spheres; and indeed, muſt have ruined the Univerſe: ſo that there was an abſolute Neceſſity to believe the Heavens to be made of a fluid Subſtance; at leaſt 'tis not to be doubted, from the Obſervation of this, and the laſt Age, that *Venus* and *Mercury* move round the Sun, and not round the Earth. So that the ancient Syſtem is not to be defended, as to this particular. But I will propoſe one to you, which ſolves all Objections, and which will put the King of *Arragon* out of a condition of Adviſing;

viſing; and which is ſo ſurpriſingly ſimple and eaſie, that that good Quality alone ought to make it preferrable to all others.

Methinks, ſaid Madam *la Marquiſe*, that your Philoſophy is a kind of Sale, or Farm, where thoſe that offer to do the Affair at the ſmalleſt Expence, are preferr'd.

'Tis very true, ſaid I; and 'tis only by that, that we are able to gueſs at the Scheme, upon which Nature hath fram'd her Work: She is very ſaving, and will take the ſhorteſt and cheapeſt way: Yet notwithſtanding, this Frugality is accompany'd with a moſt ſurpriſing Magnificence, which ſhines in all ſhe has done; but the Magnificence is in the Deſign, and the Oeconomy in the Execution: And indeed there is nothing finer than a great Deſign, carried on with a little Expence. But we are very apt to overturn all theſe Operations of Nature, by contrary Ideas: We put Oeconomy in the Deſign, and Magnificence in the Execution: We give her a little Deſign, which we make her perform with ten times a greater Charge than is needful.

I ſhall be very glad, ſaid ſhe, that this Syſtem, you are to ſpeak of, will imitate Nature ſo exactly; for this good Husbandry will turn to the advantage of my Underſtanding, ſince by it I ſhall have leſs trouble to comprehend what you have to ſay.

There is in this Syſtem no more unneceſſary Difficulties: Know then, that a certain *German* named *Copernicus*, does at one Blow cut off all theſe different Circles, and Chriſtalline Spheres, invented by the Ancients; deſtroying the one, and

and breaking the other in pieces; and being inſpir'd with a noble Aſtronomical Fury, takes the Earth, and hangs it at a vaſt diſtance from the Centre of the World, and ſets the Sun in its place, to whom that Honour does more properly belong; the Planets do no longer turn round the Earth, nor do they any longer contain it in the Circle they deſcribe; and if they enlighten us, it is by chance, and becauſe they find us in their way: All things now turn round the Sun; among which, the Globe itſelf, to puniſh it for the long Reſt, ſo falſly attributed to it before; and *Copernicus* has loaded the Earth with all thoſe Motions, formerly attributed to the other Planets; having left this little Globe none of all the Celeſtial Train, ſave only the Moon, whoſe natural Courſe it is, to turn round the Earth.

Soft and fair, ſaid Madam *la Marquiſe*; you are in ſo great a Rapture, and expreſs yourſelf with ſo much Pomp and Eloquence, I hardly underſtand what you mean: You place the Sun unmoveable in the Centre of the Univerſe: Pray, what follows next?

Mercury, ſaid I, who turns round the Sun; ſo that the Sun is in the Centre of the Circle he deſcribes: And above *Mercury*, *Venus*; who turns alſo round the Sun: Next comes the Earth; which being more elivated than *Mercury*, or *Venus*, deſcribes a Circle of a greater Circumference than thoſe two Planets: Laſt comes *Mars*, *Jupiter*, and *Saturn*, in their order, as I have nam'd 'em: So that you ſee eaſily, that *Saturn* ought to make the greateſt Circle round the Sun; it is therefore that *Saturn* takes

takes more time to make his Revolution, than any other Planet.

Ah, but, ſaid Madam *la Marquiſe*, interrupting me, you forget the Moon.

Do not fear, ſaid I, Madam; I ſhall ſoon find her again. The Moon turns round the Earth, and never leaves it; and as the Earth moves in the Circle it deſcribes round the Sun, the Moon follows the Earth in turning round it; and if the Moon do move round the Sun, it is only becauſe ſhe will not abandon the Earth.

I underſtand you, ſaid ſhe: I love the Moon for ſtaying with us, when all the other Planets have left us; and you muſt confeſs, that your *German*, *Copernicus*, would have taken her from us two, had it been in his Power; for I perceive by his Procedure, he had no great Kindneſs for the Earth.

I am extreamly pleas'd with him, ſaid I, for having humbled the Vanity of Mankind, who had uſurp'd the firſt and beſt Situation in the Univerſe; and I am glad to ſee the Earth under the ſame Circumſtances with the other Planets.

That's very fine, ſaid Madam *la Marquiſe*: Do you believe that the Vanity of Man places itſelf in Aſtronomy; or that I am any way humbled, becauſe you tell me the Earth turns round the Sun? I'll ſwear, I do not eſteem myſelf one whit the leſs.

Good Lord! Madam, ſaid I, Do you think I can imagine you can be as zealous for a Precedency in the Univerſe, as you would be for that in a Chamber? No, Madam; the Rank of Place between two Planets will never make ſuch

ſuch a Buſtle in the World, as that of two Ambaſſadors: Nevertheleſs, the ſame Inclination that makes us endeavour to have the firſt Place in a Ceremony, prevails with a Philoſopher in compoſing his Syſtem, to place himſelf in the Centre of the World, if he can: He is proud to fanſie all things made for himſelf; and without Reflection, flatters his Senſes with this Opinion, which conſiſts purely in Speculation.

Oh, ſaid Madam *la Marquieſe*, this is a Calumny of your own Invention againſt Mankind, which ought never to have received *Copernicus*'s Opinion, ſince ſo eaſie, and ſo humble.

Copernicus, ſaid I, Madam, himſelf was the moſt diffident of his own Syſtem; ſo that it was a long time before he would venture to publiſh it, and at laſt reſolv'd to do it at the earneſt Intreaty of People of the firſt Quality. But do you know what he did, the Day they brought him the firſt printed Copy of his Book? That he might not be troubled to anſwer all the Objections and Contradictions he was ſure to meet with, he wiſely left the World, and died.

Hold, ſaid Madam *la Marquieſe*, we ought to do Juſtice to all the World; and 'tis moſt certain, 'tis very hard to believe we turn round, ſince we do not change Places, and that we find ourſelves in the Morning, where we lay down the Night before. I ſee very well by your Looks, what 'tis you are going to ſay; That ſince the Earth moves all together ——

Moſt certainly, ſaid I: 'Tis the ſame thing as if you were aſleep in a Boat, ſailing on a Ri-

ver, you would find yourſelf in the ſame place in the Morning, and in the ſame Situation as to the ſeveral parts of the Boat.

True, ſaid ſhe, but with this Difference; I ſhou'd at my waking, find another Shoar; and that would convince me, my Boat had chang'd its Situation: But 'tis not the ſame with the Earth; for there I find every thing as I left it the Night before.

Not at all, Madam, ſaid I; the Earth changes the Shoar, as well as your Boat. You know, Madam, that above and beyond all the Circles, deſcrib'd by the Planets, is the Sphere of the fixed Stars; that's our Shoar: I am on the Earth, which makes a great Circle round the Sun; I look towards the Centre of this Circle, there I ſee the Sun; if the Brightneſs of his Rays did not remove the Stars from my Sight, by looking in a ſtreight Line, I ſhould eaſily perceive the Sun correſponding, to ſome fixed Star beyond him; but in the Night-time, I ſee clearly the Stars, to which the Sun did anſwer, or was oppoſite to, the Day before; which is, indeed, the ſame thing. If the Earth were immoveable, and did not alter its Situation in its own Circle, I ſhould always ſee the Sun oppoſite to the ſame fixed Stars; but I ſee the Sun in different Oppoſition to the Stars, every Day of the Year: It moſt neceſſarily follows then, the Circle changes its Situation, that is, the Shoar, round which we go daily: And as the Earth performs its Revolution in a Year, I ſee the Sun, in that ſpace of Time, anſwer in direct Oppoſition to a whole Circle of fixed Stars; this Circle is called the Zodiack: Will you

pleaſe,

pleaſe, Madam, that I trace the Figure of it on the Sand?

By no means, ſaid ſhe; I can ſatisfie myſelf without that Demonſtration: Beſides that, it would give a certain Mathematical Air to my Park, which I do not like. Have not I heard of a certain Philoſopher, who being Ship-wreck'd, and caſt upon an unknown Iſland, who ſeeing ſome Mathematical Propoſitions drawn on the Sea-ſands, called to one of thoſe with him, and cry'd, *Courage, my Friend, here are the Footſteps of Men; this Country is inhabited.* You know, it is not decent in me to make ſuch Foot-ſteps, nor muſt they be ſeen in this place.

'Tis fit, continued I, Madam, that nothing be ſeen here, but Steps of Lovers; that is to ſay, your Name and Cipher engraven on the Bark of Trees by the Hand of your Adorers.

Pray, Sir, ſaid ſhe, let Adorers alone, and let us ſpeak of the Sun: I underſtand very well, how we imagine he deſcribes that Circle, which indeed, we ourſelves deſcribe; but this requires a whole Year's time, when one wou'd think the Sun paſſes over our Heads every Day: How comes that to paſs?

Have you not obſerv'd, ſaid I, that a Bowl thrown on the Earth, has two different Motions; it runs toward the Jack, to which it is thrown; and at the ſame time it turns over and over ſeveral times, before it comes that Length; ſo that you will ſee the Mark that is on the Bowl, ſometimes above, and ſometimes below: 'Tis juſt ſo with the Earth; in the time it advances on the Circle it makes round the Sun, in

its Yearly Courſe, it turns over once every four and twenty Hours, upon its own Axis; ſo that in that ſpace of Time, which is one Natural Day, every Point of the Earth (which is not near the South or North Poles) loſes and recovers the ſight of the Sun: And as we turn towards the Sun, we imagine the Sun is riſing upon us; ſo when we turn from it, we believe ſhe is ſetting.

This is very pleaſant, ſaid Madam *la Marquiſe:* You make the Circle to do all, and the Sun to ſtand idle; and when we ſee the Moon, Planets and fixed Stars turn round us in four and twenty Hours, all is but bear Imagination.

Nothing elſe, ſaid I, but pure Fancy, which proceeds from the ſame Cauſe; only the Planets make their Circle round the Sun, not in the ſame ſpace of Time, but according to their unequal Diſtance from it; and that Planet which we ſee to Day, look to a certain Point of the Zodiack, or Sphere of fixed Stars, we ſhall ſee it anſwer to every other Point to Morrow; as well becauſe that Planet moves on its Courſe, as that we proceed in ours: We move, and ſo do the other Planets: By this means we vary both Situation and Oppoſition, as to them, and we think we diſcover Irregularities in their Revolutions, which I will not now trouble you with; 'tis ſufficient for you to know, that any thing that may appear to us to be irregular, in the Courſe of the Planets, is occaſion'd by our own Motion meeting theirs in ſuch different manners; but upon the whole, the Courſe of the Planets is moſt regular.

I agree with all my heart, ſaid Madam *la Marquiſe*; yet I wiſh with all my heart, that that Regularity were not ſo laborious to the Earth: I fanſie *Copernicus* has not been very careful of its Concerns, in making ſo weighty and ſolid a Maſs run about ſo nimbly.

But, Madam, ſaid I, would you rather, that the Sun and the Stars (which are generally far greater Bodies) ſhould make a vaſt Circumference round the Earth in a Day, and run an infinite number of Leagues in twenty four Hours time? Which they muſt of neceſſity do, if the Earth have not that Diurnal Motion on its own Axis.

Oh! anſwered ſhe, the Sun and Stars are all Fire, ſwiftneſs of Motion is eaſie to them; but for the Earth, that does not ſeem to be very portable.

And would you believe it, ſaid I, Madam, if you had never ſeen the Experiment, that a Firſt Rate Ship, of a hundred and twenty Guns, with fifteen hundred Men, and proportionable Proviſion, with all her Ammuniton and Tackle a-board, were a very portable thing? Notwithſtanding a gentle Breeze will move this Ship one the Sea, becauſe the Water is liquid, and yielding eaſily, makes no reſiſtance to the Motion of the Veſſel: So the Earth, notwithſtanding of a vaſt bulk and weight, is eaſily moved in the Celeſtial Matter, which is a thouſand times more fluid than the Water of the Sea; and which fills all that vaſt Extent, where the Planets ſwim, as it were: And to what would you fix or grapple the Earth, to hinder it from being carried along with the

Current of this Celeſtial Matter, or Subſtance? It would be juſt as if a little wooden Ball ſhould not follow the Current of a rapid River.

But, ſaid ſhe, how does the Earth ſupport its vaſt Weight, on your Heavenly Subſtance, which ought to be very light, ſince it is ſo fluid?

That does not follow, anſwered I, Madam, that a thing muſt be light, becauſe 'tis fluid: What ſay you to the Firſt Rate Ship, I ſpoke of, with all its Lading? Yet 'tis lighter than the Water, becauſe it ſwims upon it.

As long as you command your Firſt Rate Frigat, ſaid ſhe, angerly, I will not argue with you; but can you aſſure me, That I am in no danger, by inhabiting ſuch a little humming Top, as you have made the World to be?

Well, Madam, ſaid I, the Earth ſhall be ſupported by four Elephants, as the *Indians* fancy it is.

Here's a new Syſtem indeed, cry'd Madam *la Marquiſe*; yet I love thoſe Men, for providing for their own Security, by reſting upon a ſolid Foundation; whereas we that follow *Copernicus*, are ſo inconſiderate, as to ſwim at a venture upon your Celeſtial Matter: And I dare ſay, if theſe *Indians* thought the Earth in any danger of falling, they wou'd quickly double the number of their Elephants.

They would have all the reaſon in the World to do ſo, ſaid I, Madam; (laughing at her Fancy;) and wou'd you not ſpare Elephants to ſleep in quiet, without fear of falling: And Madam, we will add as many as you pleaſe to our Syſtem for this Night, and take them away

way by degrees, as you get more Aſſurance.

Really, ſaid ſhe, I do not think they are needful at preſent; for I feel I have Courage ſufficient to turn round.

You muſt go a ſtep further, ſaid I, and you ſhall turn round with Delight; upon this Syſtem you will form to yourſelf very pleaſant and agreeable Ideas: As for Example, Sometimes I fancy I am hanging in the Air, and that I ſtay there without moving, while the Earth turns round under me in four and twenty Hours time, and that I ſee beneath me all thoſe different Faces; ſome white, ſome black, ſome tawny, others of an Olive-colour; firſt I ſee Hats, then Turbants, their Hands cover'd with Wool, there ſhav'd Heads; ſometimes Towns with Steeples, ſome with their long ſmall pointed Pyramids, and Half-moons on their tops; ſometimes Towns with Porcelane-towers; after them, ſpacious Fields, without Towns, only Tents and Huts; here vaſt Seas, frightful Deſarts: In ſhort, all the Variety that is to be ſeen upon the Face of the Earth.

Indeed, ſaid ſhe, ſuch a Sight wou'd be very well worth twenty four Hours of one's time: So that by this Syſtem, through the ſame place where we now are (I do not mean this Park, but that ſpace of Air which our Bodies fill) ſeveral other Nations muſt ſucceſſively paſs, and we return hither, in twenty four Hours, to our own place again.

Copernicus himſelf, ſaid I, Madam, did not underſtand it better. At firſt will be here the *Engliſh*, diſcourſing, it may be upon ſome Politick Deſign, with more Gravity, but leſs Plea-

ſure, than we talk of our Philoſophy: Next will come a vaſt Ocean, in which there will be ſailing ſome Ships, perhaps not ſo much at their Eaſe as we are: Then will appear the *Canibals*, eating ſome Priſoners of War alive, they ſeeming very uncoucern'd at what they ſuffer: After them, the Women of the Country of *Jeſſo*, who ſpend all their time in preparing their Husbands Meals, and in painting their Lips and Eye-brows with Blew, to pleaſe the ugliеſt Fellows in the World: Next will ſucceed the *Tartars*, who go, with great Devotion, on Pilgrimage to that great Prieſt, who never comes out of an obſcure Place, where he has no other Light but Lamps, by which they adore him: After them, the beautiful *Circaſſian* Women, who make no difficulty of granting any Favour to the firſt Comer, except what they eſſential know does belong to their Husbands: Then the *Crim*, or little *Tartars*, who live by ſtealing of Wives for the *Turks* and *Perſians*: And at laſt, ourſelves again, perhaps talking as we do now.

I am mightily taken, ſaid Madam *la Marquiſe*, with the Fancy of what you ſay; but if I could ſee all theſe things from above, I would wiſh to have the Power to haſten and ſtop the Motion of the Earth, according as I lik'd or diſlik'd the ſeveral Objects that paſs under me; I wou'd make the Polititians, and thoſe that eat their Enemies, to move very faſt: But there are others that I ſhou'd be very curious to obſerve; and particularly, the fine *Circaſſian* Women, who have one ſo peculiar a Cuſtom.

That is, ſaid I, their Husbands who finding

ſo

ſo many Charms in their Embraces, as more than ſatisfie them, do freely abandon their fair Wives to Strangers.

The Women of our Country, ſaid Madam *la Marquieſe*, muſt be very ugly, if compar'd to the *Circaſſians*; for our Husbands ſtill part with nothing.

That is the reaſon, ſaid I, that the more is taken from 'em; whereas ——

No more of theſe Fooleries, ſaid Madam *la Marquieſe*, interrupting me; there's a ſerious Difficulty come into my Head: If the Earth turn round, then we change Air every Moment, and muſt breath ſtill that of another Country.

By no means, Madam, ſaid I; the Air which encompaſſes the Earth extends itſelf to a certain height, it may be about twenty Leagues, and turns round with us. You have, no doubt, ſeen a thouſand times the buſineſs of the Silk-worm, where the Balls which theſe little Creatures do work with ſo much Art, for their own Impriſonment, are compact, and wrought together with Silk, which is very cloſely joyn'd; but they are cover'd with a kind of Down, that is very light and ſoft: Thus it is that the Earth, that is very ſolid, is wrapp'd in a Covering of ſoft Down of twenty Leagues thickneſs, which is the Air that is carried round at the ſame time with it: Above the Air is that Celeſtial Matter I ſpoke of, incomparably more pure, more ſubtile, and more agitated than the Air.

You repreſent the Earth to me, ſaid Madam *la Marquieſe*, as a very contemptible thing, but the

the deſpicable Ideas you give me of it: 'Tis, nevertheleſs, upon this Silk-worm-ball, there are perform'd ſuch mighty Works; and where there are ſuch terrible Wars, and ſuch ſtrange Commotions as reign every-where.

'Tis certainly true, ſaid I, Madam; while at the ſame time, Nature, who is not at the pains to conſider theſe Troubles and Commotions, carries us all along together, by a general Motion, and does, as it were, play with this little Globe.

It ſeems to me, ſaid ſhe, that 'tis very ridiculous to inhabit any thing that turns ſo often, and is ſo much agitated; and the worſt of all is, that we are not aſſur'd whether we turn round, or not; for, to be plain with you, and that I may keep none of my Doubts from you, I do extremely ſuſpect, that all the Precautions you can take, will not convince me of the Motion of the Earth: For is it poſſible, but Nature wou'd have taken care to have given us ſome ſenſible Sign, by which we might diſcover the the turning round of ſo vaſt a Body?

The Motions, anſwered I, which are moſt natural to remove, are the leaſt perceptible; and which holds true, even in Morality; for the Motion of Self-love is ſo natural to us, that for the moſt part we do not feel it, while we believe we act by other Principles.

Ah, ſaid ſhe, do you begin to ſpeak of Moral Philoſophy, when the Queſtion is of that which is altogether Natural? But I perceive you are ſleepy, and begin to Yawn; let us therefore retire, for there's enough ſaid for the Firſt Night; to Morrow we ſhall return hi-

hither again; you with your Syſtems, and I with my Ignorance.

In returning to the Caſtle, to make an end of what might be ſaid to Syſtems, I told her, There was a third Opinion invented by *Tichobrahe*, who wou'd have the Earth abſolutely immoveable, and plac'd in the Centre of the Univerſe, and made the Sun to turn round it, as he did the other Planets to turn round the Sun; becauſe ſince the new Diſcoveries, it cou'd not be imagin'd that the other Planets turn'd round the Earth. But my Lady *la Marquieſe*, whoſe Judgment and Underſtanding is ſolid and penetrating, found there was too much Affectation in endeavouring to free the Earth from turning round the Sun, ſince ſeveral other great Bodies cou'd not exempt from that Labour; and that the Sun was not ſo proper and fit to turn round the Earth, ſince the other Planets turn round the Sun; and that this new Syſtem was only good to maintain the ſtanding ſtill of the Earth, if one had a mind to undertake that Argument; but 'tis not proper to perſwade another to believe it. At laſt, we reſolv'd to hold ourſelves to the Opinion of *Copernicus*, which is more unifrom, and more agreeable, without the leaſt mixture of Prejudice; and indeed, its Simplicity and Eaſineſs perſwades as much as its Boldneſs pleaſes.

The

The Second NIGHT.

AS ſoon as one could get into my Lady *Marquiſe*'s Apartment, I ſent to know how ſhe did, and how ſhe had ſlept that Night in turning round. She ſent me word, That now ſhe was pretty well accuſtom'd to the Motion of the Earth, and that *Copernicus* himſelf cou'd not have reſted better that Night than ſhe did. A little after this, there came Company to viſit my Lady, which, according to the nauſeous Country-faſhion, ſtaid till the Evening, and yet we thought ourſelves happy that we were ſo eaſily rid of 'em then, ſince according to the Cuſtom of the Country, they might have prolong'd their Viſit till the next Day; but they were ſo Civil, as not to do it; ſo that Madam *la Marquiſe* and I found ourſelves at liberty. In the Evening we went again to the Park, and the Converſation began as it ended before, of our Syſtem: My Lady *la Marquiſe* had comprehended 'em ſo well, that ſhe would not be at the pains to re-aſſume any thing of what had paſs'd, but preſs'd me to lead her to ſomething that was new:

Well, ſaid I, ſince the Sun, which is now immoveable, and no longer a Planet; and that the Earth, that moves round the Sun, is now one, be not ſurpriz'd if I tell you, the Moon is another Earth, and is, by all appearance, inhabited.

Said

Said ſhe, I never heard of the Moon's being inhabited, but as a Fable.

So it may be ſtill, ſaid I; I concern myſelf no further in theſe Matters, than Men uſe to do in Civil Wars; where the Uncertainty of of what may be, makes People ſtill entertain a Correſpondence with the adverſe Party: As for me, tho' I ſee the Moon inhabited, I live very civilly with thoſe that do not believe it; and I carry myſelf ſo trimmingly, that I may, upon occaſion, with Honour go over to their ſide who have the better; but ſtill they gain ſome conſiderable Advantage over us. I will tell you my Reaſons that make me take part with the Inhabitants of the Moon: Suppoſe then, there had never been any Commerce between *Paris* and St. *Denis*, and that a Citizen of *Paris*, who had never been out of that City, ſhould go up to the top of the Steeple of our Lady, and ſhould view St. *Denis* at a diſtance, and one ſhould ask him, If he believ'd St. *Denis* to be inhabited? he would anſwer boldly, 'Not at all; for (he wou'd ſay) I ſee the Inhabi-'tants of *Paris*, but I do not ſee thoſe of St. *Denis*, 'nor ever heard of 'em. It may be ſome body ſtanding by, wou'd repreſent to him, 'That it 'was true, one cou'd not ſee the Inhabitants of 'St. *Denis* from our Lady's Church, but that the 'diſtance was the cauſe of it; yet that all we 'cou'd ſee of St. *Denis*, was very like to *Paris*; 'for St. *Denis* had Steeples, Houſes and Walls; 'and that it might reſemble *Paris* in every thing 'elſe, and be inhabited as well as it. All theſe Arguments wou'd not prevail upon my Citizen; who wou'd continue ſtill obſtinate in maintaining,

ing, that St. *Denis* was not inhabited, becauſe he ſaw none of the People. The Moon is our St. *Denis*, and we the Citizens of *Paris*, that never went out of our Town.

Ah, interrupted Madam *la Marquiſe*, you do us wrong; we are not ſo fooliſh as your Citizens of *Paris*: Since he ſees that St. *Denis* is ſo like to *Paris* in every thing, he muſt have loſt his Reaſon, if he did not think it was inhabited: but for the Moon, that's nothing like the Earth.

Have a care, Madam, ſaid I, what you ſay; for if I make it appear, that the Moon is in every thing like the Earth, you are oblig'd to believe that the Moon is inhabited.

I acknowledge, ſaid ſhe, if you do that, I muſt yield; and your Looks are ſo aſſur'd, that you frighten me already: The two different Motions of the Earth, which would never have enter'd into my Thoughts, make me very apprehenſive of all you ſay. But is it poſſible that the Earth can be an enlighten'd Body, as the Moon is? For, to reſemble it, it muſt be ſo.

Alas, Madam, ſaid I, to be enlighten'd, is not ſo great a matter as you imagine, and the Sun only is remarkable for that Quality: 'tis he alone that is enlighten'd of himſelf, by virtue of his particular Eſſence; but the other Planets ſhine only, as being enlighten'd by the Sun: The Sun communicates his Light to the Moon, which reflects it upon the Earth; as the Earth, without doubt, reflects it back again to the Moon, ſince the diſtance from the Moon to the Earth is the ſame as from the Earth to the Moon.

But,

But, ſaid Madam *la Marquieſe*, is the Earth as proper for reflecting the Light of the Sun, as the Moon?

You are always for the Moon, ſaid I, and you cannot rid your ſelf of thoſe Remains of Kindneſs you have for her. Light is compos'd of little Balls, which rebound upon any ſolid Body, which is *opaque*, or obſcure, and are ſent back another way; whereas they paſs through any thing that offers them an Opening, or Paſſage, in a ſtreight Line; which is *diaplanus*, or clear; ſuch as Air and Glaſs: So that the Moon enlightens us, becauſe ſhe is an *opaque*, ſolid Body, which retorts theſe little Balls upon us; and I believe you will not diſpute the ſame Solidity to the Earth. Admire then, Madam, how advantageous it is, to be well poſted; ſo that the Moon being at a great diſtance from us, we ſee it as an enlighten'd Body only, but are ignorant that 'tis a groſs ſolid Maſs, very much like the Earth: On the other hand, the Earth having the ill luck to be ſeen by us too near, we conſider it only as a great maſſy Body, fit only for the producing of Food for living Creatures.

'Tis juſt, ſaid Madam *la Marquieſe*, as when we are ſtruck and ſurpriz'd with the ſplendour of Quality above our own; we do not perceive that in the Main, there's no difference between them and us.

'Tis juſt ſo, ſaid I; and we will needs be judging of every thing; but we have the Misfortune, ſtill to be plac'd in a falſe Light: Would we judge of our ſelves, we are too near; if of others, we are to far off: Cou'd

one

one be plac'd between the Moon and the Earth, that wou'd be a true Station to conſider both well: To this End, we ought only to be Spectators of the World, and not Inhabitants.

I ſhall never be ſatisfi'd, ſaid Madam *la Marquieſe*, with the Injury we do the Earth, in being too favourably enagag'd for the Inhabitants of the Moon, unleſs you can aſſure me, that they are as ignorant of their Advantages, as we are of ours; and that they take our Earth for a Star, without knowing that the Globe they inhabit is one alſo.

Be aſſur'd of that, Madam, ſaid I, that the Earth appears to them to perform all the Functions of a Star: 'Tis true, they do not ſee the Earth deſcribe a Circle round 'em, but that's all one; I'll explain to you what it is: That ſide of the Moon which was turn'd towards the Earth at the beginning of the World, has continu'd towards the Earth ever ſince; which ſtill repreſents to us theſe ſame Eyes, Noſe and Mouth, which our Imginations fancy we ſee compos'd of theſe Spots, Lights and Shadows, which are the Surface of the Moon: Cou'd we ſee the other half of the Moon, 'tis poſſible our Fancy wou'd repreſent to us ſome other Figure. This does not argue, but the Moon turns however upon her own Axis, and takes as much time to perform that Revolution, as ſhe does to go round the Earth in a Month. But then, when the Moon performs a part of her Revolutions on her own Axis, and that ſhe ought to hide from us (for Example) one Cheek of this imaginary Face, and appear to us in another Poſition, ſhe does at the ſame time perform as

much

much of the Circle ſhe deſcribes in turning round the Earth; and tho' ſhe is in a new Point of Sight or Oppoſition as to us, yet ſhe repreſents to us ſtill the ſame Cheek: ſo that the Moon, in regard to the Sun, and the other Planets, turns upon her own Axis; but does not ſo as to the Earth. The Inhabitants of the Moon ſee all the other Planets riſe an ſet in the Space of fifteen Days, but they ſee our Earth always hanging in the ſame Point of the Heavens. This ſeeming Immovability, does not very well agree with a Body that ought to paſs for a Planet; but the truth is, the Earth is not in ſuch perfection: Beſides, the Moon has a certain trembling Quality, which does ſometimes hide a little of her imaginary Face, and at other times ſhews a little of her oppoſite Side; and no doubt but the Inhabitants of the Moon attribute this Shaking to the Earth, and believe we make a certain Swinging in the Heavens, like the Pendulum of a Clock.

All theſe Planets, ſaid Madam *la Marquieſe*, are like us Mortals, who always caſt our own Faults upon others: Says the Earth, *It is not I that turn round, 'tis the Sun.* Says the Moon, *It is not I that tremble, 'tis the Earth.* There are Errors and Miſtakes every-where.

I wou'd not adviſe you, ſaid I, to undertake to reform any of 'em; 'tis better that I make an end in convincing you, that the Moon is in all things like the Earth: Repreſent to your ſelf theſe two great Globes, hanging in the Heavens; you know that the Sun does always enlighten one half of any Globe, and the other half is in the Shadow; there is therefore al-

ways one half of both Moon and Earth that is enlighten'd, or half Day, and the other half is ſtill in the Darkneſs of Night. Be pleas'd, beſides, to conſider that a Ball has leſs force and ſwiftneſs after it rebounds from a Wall, againſt which it was thrown, than it had before it touch'd the Wall, which ſends it another way; ſo Light is not ſo ſtrong, after 'tis reflected by any ſolid Body: This pale Light which comes to us from the Moon, is the Light of the Sun itſelf, but we have it only by Reflection from the Moon, and has loſt a great deal of that Strength and Vivacity which it had when 'twas receiv'd by the Moon, directly from the Sun; and that bright and dazling Light which we receive from the Sun, muſt in the ſame manner appear to the Inhabitants of the Moon, after 'tis reflected by the Earth, on the Moon: So that the Surface of the Moon, which we ſee enlighten'd, and which ſhines upon us in the Night, is that half of the Moon that Enjoys the Day, as that half of the Globe of the Earth which is enlighten'd by the Sun, when 'tis turn'd towards the darkn'd half of the Globe of the Moon, does give Light to the Inhabitants there, during their Nights. All depends upon the different Oppoſition and Aſpects between the Moon and the Earth: The firſt and ſecond Day of the Moon, we do not ſee her, becauſe ſhe is betwixt the Sun and us, and moves with the Sun by our Day; it neceſſarily follows, that the half of the Moon which is enlighten'd, is turn'd towards the Sun, and the obſcure part towards the Earth; 'tis no wonder then, that we cannot ſee that half which

which is Dark; but that ſame half of the Moon which is in Darkneſs, being turn'd towards the enlightn'd half of the Earth, the Inhabitants ſee us without being ſeen, and the Earth appears to them, as their Full-moon does to us; and ſo, if one may uſe the Expreſſion, 'tis with them Full-earth. After this, the Moon going on in her Monthly Circle, diſengages her ſelf from the Sun, and begins to turn toward us, a part of her enlightned half, which is the Creſcent; at the very ſame time, the darkned half of the Moon loſes ſome ſhare of the enlightn'd part of the Earth, and then the Earth is in the Wain, as to its Inhabitants.

Say no more, ſaid Madam *la Marquiſe*, briskly, I ſhall know all the reſt when I pleaſe; I need only think a little, and follow the Moon in her Monthly Circle: I ſee in general, that the Inhabitants of the Moon have their Month, the exact Reverſe of ours; and I am perſwaded, when 'tis Full-moon, the enlighten'd half of it is turn'd towards the obſcure part of the Earth, and then they do not ſee us, but a certain new Earth. I wou'd not have any Body reproach me with the want of ſo much Sence, as that you need explain ſo eaſie a thing to me. But as to the Eclipſes, What is the Cauſe of them?

If you do not underſtand that, ſaid I, 'tis your own Fault. When 'tis New-moon, and that ſhe is between the Sun and the Earth, and that all her obſcure half is turn'd towards us, who then enjoy the Day, you may ſee eaſily, that the Sadow of this darkned half is caſt upon the Earth; if the Moon be directly under the Sun, this Shadow hides the Sun from us, and

at the ſame time darkens a part of the enlightned half of the Earth, which was ſeen by the Inhabitants of the obſcure half of the Moon: And this is an Eclipſe of the Sun to us, in our Day; and an Eclipſe of the Earth to thoſe in the Moon, in their Night. When the Moon is at the Full, the Earth is betwixt her and the Sun, and all the obſcure part of the Earth is turn'd towards the enlightn'd half of the Moon, the Shadow of the Earth is then caſt upon the Moon; and if it falls directly on her Surface, it obſcures the enlighten'd half which we ſee, and hides the Sun from that enlighten'd part of the Moon that enjoy'd the Day: This is an Eclipſe of the Moon to us, during our Night; and an Eclipſe of the Sun to them, during their Day. By this Reaſon, it falls out, that there are not always Eclipſes when the Moon interpoſes between the Sun and the Earth, or the Earth is interjected between the Sun and the Moon; becauſe theſe three Bodies are not oppoſite one to another, in a ſtreight Line; and by Conſequence, that of the three, which ought to make the Eclipſe, caſts its Shadow a little to one ſide of that which ſhou'd be eclips'd.

I am extreamly ſurpriz'd, ſaid Madam *la Marquiſe*, that (ſince there is ſo little of Myſtery or Difficulty in Eclipſes) every Body does not find out the Cauſe of 'em.

Do not wonder at that, ſaid I, Madam; there are many Nations in the World, that as they go to work, will not find it out for Ages to come; for all over the *Eaſt-Indies* the Inhabitants believe, that when the Sun or Moon is eclips'd,

eclips'd, certain Demons, or Spirits, who have very black Claws, do ſtretch them forth upon theſe two Luminaries, which he endeavours to ſieze: and during the time of the Eclipſe, you may ſee all the Rivers cover'd with Heads of *Indians*; for they go into the Water, up to the Neck, thinking that moſt devout Poſture for obtaining from the Sun and Moon, a Defence againſt that Demon. In *America*, the People were perſwaded, that the Sun and Moon were angry with 'em when they were eclips'd; and God knows what pains they are at, to make their Peace with 'em. But the *Grecians*, who were ſo polite a People, did not they believe for a long time, that the Moon was bewitch'd, and that the Magicians made her come down, to throw a certain poiſonous Scum or Dew upon the Herbs and Graſs? And even we our ſelves, were we not frightned out of our Wits at an Eclipſe of the Sun, that happen'd about thirty Years ſince? Did not a great many People ſhut themſelves up in Vaults and Cellars? And did not the learned Men write in vain, to aſſure us, there was no Danger?

Certainly, ſaid Madam *la Marquieſe*, that's very diſgraceful to Mankind; and I think there ought to be a Law made by Univerſal Conſent, never to ſpeak of Eclipſes hereafter, leſt the Memory of ſuch Folly ſhou'd be preſerv'd to Poſterity.

Pray, Madam, ſaid I, let there be another Law made, for aboliſhing the Memory of all things paſt; for I know of nothing, that is not a Monument of the Folly of Mankind.

Pray, tell me, ſaid Madam *la Marquiſe*; Are the Inhabitants of the Moon as much afraid of Eclipſes as we are? It ſeems to me very ridiculous, that ſome of 'em ſhou'd run into the Water up to the Neck; that others ſhou'd think our Earth angry with 'em; ſome, that our Earth ſhou'd be bewitch'd, and that we are coming to ſpoil their Graſs.

Without all doubt, ſaid I, Madam: Why ſhou'd the Inhabitants of the Moon have more Sence than we? And what Right have they to Frighten us, more than we have to Frighten them? Nay, more; I am apt to believe, that as there has been, and ſtill are, many Inhabitants in our Globe, who are ſuch Fools to adore the Moon; there are alſo Inhabitants in the Moon, fooliſh enough to adore our Earth.

At that rate, ſaid Madam *la Marquiſe*, we may very well pretend to ſend Influences to the Moon, and to give a Judgment on their Diſtempers. But ſince there is only requiſite, a little more Wit and Ingenuity in the Inhabitants of that Country, to blaſt the Honour we flatter our ſelves with, I confeſs I am ſtill apprehenſive, they may have ſome Advantage over us.

Do not fear, ſaid I; there is no likelihood that we are the only Fools of the Univerſe. Ignorance is naturally a very general Talent; and though I do but gueſs at that of the Inhabitants of the Moon, yet I no more doubt of it, than I do of the moſt certain News we have from thence.

And what, pray, are theſe certain News you have from thence? interrupted ſhe.

They

They are, ſaid I, Madam, ſuch as are brought us every Day by the Learned, who travel daily thither by the help of long Teleſcopes: They tell us, they have diſcover'd vaſt Countries, Seas, Lakes, high Mountains, and deep Vallies.

You ſurprize me, ſaid Madam *la Marquieſe:* I know very well, that Mountains and Vallies may be diſcover'd in the Moon, by the remarkable Inequality we ſee in its Surface; But how do they diſtinguiſh Countries and Seas?

Very eaſily, ſaid I; becauſe the Water permits a part of the Light to paſs through it, and reflects leſs, and appears, at a great diſtance, to be obſcure Spots; and that the Earth, which is ſolid, reflects the whole Light, and therefore muſt appear the brighteſt part of the Globe of the Moon. Theſe different Parts are all ſo well known, that they have given them all Names of learned Men: One place is call'd, *Copernicus*; another, *Archimedes*; and a third, *Galileus:* There are too a *Caſpian*-ſea, *Porphory*-Hills, and the *Black*-lake: In ſhort, they have fram'd ſo exact a Deſcription of the Moon, that a learned Man, if he were there, wou'd be in no more danger of loſing his Way, than I wou'd be, if I were at *Paris*.

But, reply'd Madam *la Marquieſe*, I ſhou'd be very well pleas'd to have a farther Account of this Country.

'Tis impoſſible, reply'd I, that the niceſt Obſervators ſhou'd inform you ſo well as *Aſtolpho* of whom you ought to enquire; and who was conducted to the Moon by St. *John*. What I ſhall tell you now, is one of the moſt pleaſant

Fooleries in all *Arioſto*; and I am ſatisfied, it will not diſpleaſe you to know it. I own, I ought not to meddle with St. *John*, whoſe Name is ſo worthy of Reſpect: But ſince there is a Poetical Licenſe, and Liberty of Conſcience, it ought to paſs as a Gayety. The whole Poem is dedicated to a great Church-man, and another great Church-man has honour'd it with a Signal Approbation; which one may perceive by the ſeveral Editions. See what he treats of, *Orlando* Nephew to *Charlemain*, became Mad, becauſe the Fair *Angelica* had preffered *Medora* to him; one Day *Aſtolpho* the brave *Paladine*, found himſelf in a terreſtial Paradiſe, which was on the Brink of a very high Mountain, whither his flying Horſe had carried him; there he met St.—— who told him that to cure the Madneſs of *Orlando*, 'twas neceſſary they ſhou'd take a Voyage to the Moon; *Aſtolpho*, who deſir'd nothing more than to ſee that Country, wanted no Intreaties; and behold on a ſudden a Chariot of Fire carried the Saint, and the *Paladine* through the Air. As *Aſtolpho* was no great Philoſopher, he was much ſurpriz'd to ſee the Moon ſo vaſtly bigger than it had appeared to him upon the Earth, and was much more amaz'd to ſee Rivers, Lakes, Mountains, Plains, Groves, Towns, and Forreſts, (and that which wou'd have ſurpriz'd me alſo) beautiful Nymphs that hunted in thoſe Foreſts. But that which he beheld yet more rare, was a Valley where he found all things that were loſt on Earth, of what kind ſoever, Crowns, Riches, Renown and Grandure, Infinity of Hopes, Time loſt in Waiting and Depending on Promiſing-

ſing-States-men, or thrown away at Play; the Alms that one cauſes to be given after one's Death; the Verſes and Dedications one preſents to Princes, and the Sighs of Lovers.

As for the Sighs of Lovers, reply'd Madam *la Marquiſe*, interrupting me, I know not whether in the time of *Arioſto* they were loſt or not; but in ours, I know of none that go into the Moon.

Were there none but you, Madam, reply'd I, ſmiling, you have caus'd ſo many to Sigh in vain, that you have made a conſiderable Treaſure in the Moon: In ſhort, the Moon is exact in collecting all that is loſt here Below, and which are all to be found there, even to the Donation of *Conſtantine*. (But *Aſtolpho* told me this only in my Ear.) Beſides all the Folly that was ever committed upon the Earth, is well preſerv'd there; theſe are ſo many Vials full of a ſubtile and penetrating Liquor, which eaſily evaporates as ſoon as open'd, and upon every one of theſe Vials is writ the name of thoſe to whom it belongs. I believe that *Arioſto* put 'em all in one Cup, but I had rather fancy to myſelf that they were orderly plac'd in one Gallery. *Aſtolpho* was very much aſtoniſht to ſee the Vials of ſo many Perſons whom he believed to be very wiſe, and yet notwithſtanding their Vials were ſo very full; and for my part, I am perſwaded that mine is as full as any, ſince I entertain you with Viſions, both Philoſophick and Poetical. That which comforts me is, that 'tis poſſible by what I am perſwading you to believe, I ſhall very ſuddenly make you have a Vial in the Moon as well as myſelf. The

good

good *Paladine* did not fail to find his own among the Number, and by the Permiſſion of the Saint, he took it, and ſnuffed up the Spirit as if it had been the Queen of *Hungary*'s Water: But *Arioſto* ſaid, he would not carry it far, and that it wou'd return to the Moon again by a Folly that he committed ſeven Years after: But he did not forget the Vial of *Orlando* which was the occaſion of his Voyage; he had a great deal of difficulty to carry it, for the Spirit of this Hero was in its own Nature very heavy, and did not want a drop of being full. But here *Arioſto* according to the laudable Cuſtom of ſpeaking what he pleas'd, addreſſing himſelf to his Miſtreſs, ſpeaks to her thus in good Verſe: "That I ought to cauſe one to mount the Heavens, my fair One, to make me recover the Senſes your Charms have made me loſe, yet I will not complain of this Loſs, provided it does not go too far, but if there be a Neceſſity that your Cruelties muſt continue, as they have begun, I have no more to do but to expect juſt ſuch a Fate as *Orlando*'s; however I do not believe, that to recover my Senſes 'tis requiſite I go thro' the Air to the Moon; my Soul does not lodge ſo high; it wanders about your fair Eyes and Mouth; and if you will be pleas'd to give me leave to take it, permit me to recover it with my Lips. Is not this witty for me to reaſon like *Arioſto*? I am of Opinion that a Man never loſes his Wits but for Love; and you ſee they do not travel far, while their Lips only know ſo well how to recover 'em. But when one loſes 'em by other means (as we loſe 'em by Philoſophizing) they

they go directly to the Moon, and one cannot retrieve 'em when one pleaſes.

In Recompence of this, ſaid Madam *la Marquieſe*, our Vials ſhall be honourable among the Ranks of the Philoſophers: For our Spirits will go on in Wandring and Erring on ſomething that is worthy of 'em; but to accompliſh this, and rid me of mine: Pray tell me ſeriouſly, ſaid Madam, do you believe that there are Men in the Moon? For hitherto, you have ſaid nothing to me poſitively as to that.

I do not believe there are Men there, Madam, but ſome other odd ſort of Creatures: Pray, Madam, conſider but how much the Face of Nature is chang'd betwixt this an *China*; other Faces, other Shapes, other Manners, and almoſt quite different Principles of Reaſoning, from this to the Moon the difference ought to be more conſiderable. When one travels towards the new diſcovered World of *America*, &c. and finds the Inhabitants there to be hardly Men, but rather a kind of Brutes in Human Shape, and that not perfect neither, ſo that could we travel to the Orb of the Moon, I do not think we ſhou'd find Men and Women there.

What kind of Creatures ſhou'd we find then, ſaid Madam *la Marquieſe*, with a very impatient Look?

I ſwear I cannot tell, ſaid I, Madam; were it poſſible for us to be rational Creatures and yet not Men, and that we inhabited the Moon, cou'd it ever enter into our Imagination, that there dwelt here below ſo extravagant an Animal

mal as that of Mankind? Cou'd we fancy to our ſelves any living Creatures with ſuch fooliſh Paſſions, and ſo wiſe Reflections; of ſo ſmall Duration, and yet can ſee ſo vaſt a Proſpect beyond it; of ſo much Knowledge in Trifles, and ſo much Ignorance of important Things; ſo earneſt for Liberty, yet ſo inclin'd to Servitude and Slavery; ſo very deſirous of Happineſs, and yet ſo uncapable of attaining it; it wou'd require a great deal of Wit and Judgment in the Inhabitants of the Moon, to find the Reaſon and Myſtery of ſuch an odd Compoſition; for we that ſee one another daily, have not as yet found out how we are made. It was ſaid of old amongſt the Heathens, That the Gods, when they made Man, were drunk with Nectar, whom when they had conſider'd when ſober, they cou'd not forbear laughing at the Ridiculouſneſs of their handy Work.

We are then ſecure enough, ſaid Madam *la Marquiſe*, that the Inhabitants of the Moon will never gueſs what we are; but I wiſh we cou'd attain to the Knowledge of them; for I muſt confeſs it makes me uneaſie to think there are Inhabitants in the Moon, and yet I cannot ſo much as fancy what kind of Creatures they are.

And why are you not as uneaſie, ſaid I, upon the account of the Inhabitants under, and near the South-Pole, which is altogether unknown to us? They and we are carried as it were in the ſame Ship, they in the Stern, and we in the Head; and yet you ſee there is no Communication between the Stern and the Head,

Head, and that thoſe at the one end of the Ship do not know what kind of People they are on the other, nor what they are doing, and yet you wou'd know what paſſes in the Moon, in that other great Ship ſailing in the Heavens at a vaſt diſtance from us.

Ah, ſaid Madam, *la Marquiſe*, I look upon the Inhabitants under the South-Pole, as a People known to us, becauſe they are moſt certainly very like us; and that we may ſee them if we pleaſe to give our ſelves the Trouble; they will continue ſtill where they are, and cannot run away from our Knowledge: but we ſhall never know what theſe Inhabitants of the Moon are; 'tis that that vexes me.

If I ſhou'd anſwer you ſeriouſly, ſaid I, that we may one day know 'em, wou'd not you laugh at me? Nay, and I ſhou'd deſerve it: Yet I cou'd defend my ſelf very well if I ſhou'd ſay ſo; there is a certain ridiculous Thought in my Head, which has ſome ſhadow of Likelihood, which ſatisfies me, tho' I do not know on what it is founded, it being ſo impertinent as it is; yet I will lay you what you will, that I will oblige you to believe, againſt all Reaſon, that there may one Day be a Correſpondence between the Earth and the Moon. Reflect a little, Madam, upon the State and Condition of *America*, before it was diſcover'd by *Chriſtopher Columbus*; its Inhabitants liv'd in a moſt profound Ignorance, ſo far from the Knowledge of Sciences, that they were ignorant of the moſt ſimple and uſeful Arts: They went ſtark naked, and cou'd not imagine that Men cou'd be cover'd by Skins of Beaſts; had no other

Arms

Arms but Bows, and who look'd upon the Sea as a vaſt ſpace forbidden to Mankind, joyning, as they thought, to the Skie; beyond which they ſaw nothing. 'Tis true, after having ſpent ſeveral Years with hollowing the root of a great Tree with ſharp Flints, they after ventur'd to go in this kind of Boat, which was driven along the Shore by the Winds and the Waves; but as this kind of Veſſel was ſubject to be over-ſet very often, they were neceſſitated to ſwim to catch their Boat again; and indeed, they did ſwim for the moſt part, except when they were weary. If any Body had told them there was a Navigation much more perfect than that they knew; and that by it, it was eaſie to croſs that vaſt extent of Water to any ſide, and in what manner we pleas'd, and that it was poſſible to ſtopt and lie ſtill in the midſt of the Waves, while the Veſſel is in Motion; that Men cou'd move faſt or ſlow as they pleaſed; and that the Sea, notwithſtanding the vaſtneſs of its Extent, was no hindrance to the Commerce of diſtant Nations, provided that there were People on the other Shoar; ſurely the *Indians* wou'd never have believ'd that Man that ſhou'd have told 'em this, to them Impoſſibility: Nevertheleſs, the Day came, that the ſtrangeſt and leaſt expected Sight that ever they ſaw, preſented itſelf to their View, huge great Bodies, which ſeem'd to have white Wings with which they flew upon the Sea, belching Fire from all parts, and at laſt landed upon their Shoar a Race of unknown Men, all cruſted over with polliſh'd Steel, ordering and diſpoſing at their Pleaſure the Monſters that brought

brought 'em thither, carrying Thunder in their Hands, which deſtroyed all that made any Reſiſtance, while the wondring *Indians* cried, from whence came they? who brought them over the Seas? who has given 'em the Power of Fire and Thunder? are they Gods, or the Children of the Sun? for certainly, they are not Men. I know not, Madam, whether you conceive as I do, the extraordinary Surprize of theſe *Americans*, but certainly there was never any equal to it; and after that, I will not ſwear, but there may be one Day, a Commerce betwixt the Earth and the Moon: Had the *Americans*, any Reaſon to hope for a Correſpondence betwixt *America* and *Europe*, (which they did not know?) It is true, there will be a Neceſſity to croſs the vaſt Extent of Air and Heaven that is betwixt the Earth and the Moon. But did theſe *Americans* think the Ocean more proper to be croſs'd, and paſs'd through?

Sure, ſaid Madam *la Marquiſe*, you are mad; and looking earneſtly on me;

I do not deny it, anſwer'd I.

Nay, ſaid ſhe, it is not ſufficient to confeſs it, I will prove you to be Mad: The *Americans* were ſo ignorant, that the Poſſibility of making a Way or Paſſage through the vaſt Ocean, cou'd never enter into their Thoughts; but we that know ſo much, we eaſily find out that it wou'd be no hard matter to paſs through the Air if we cou'd ſupport ourſelves.

There are thoſe Men, ſaid I, who have found out more than a Poſſibility of it; for they actually begin to flie a little, and ſeveral have made

made and fitted Wings to themſelves, and invented a way to give themſelves Motion, for ſupporting the Body in the Air, for croſſing of Rivers, and flying from one Steeple to another. 'Tis true, theſe were no flights of an Eagle; and it has coſt ſome of theſe new Birds a Leg or an Arm: But this Eſſay is like the firſt Planks that are carry'd on the Water, which yet gave beginnings to Shipping; and there was a very great difference between theſe Planks and Ships of mighty Burden; yet you ſee that Time by degrees has produc'd great Ships. The Art of Flying is but in its Infancy, Time muſt bring it to Maturity, and one Day Men will be able to flie to the Moon.

Do you pretend to have diſcover'd all things, ſaid ſhe, or to have brought them to that Perfection that nothing can be added?

Pray, Madam, ſaid I, by Conſent, let us ſave ſomething for the Age to come.

I will never yield, ſaid ſhe, that Men will ever be able to flie without breaking their Necks.

Well, ſaid I, Madam, ſince you will needs have Men always to flie ſo ill, it may be the Inhabitants of the Moon will flie better, and will be fitter for that Trade; for 'tis all one, if we go to them or they to us. And we ſhall be like the *Americans*, who did not believe Navigation poſſible, when at the ſame time Sailing was ſo well underſtood on the other half of the Globe.

Sure, ſaid ſhe, in anger, the Inhabitants of the Moon wou'd have been with us before now, if that were likely.

Pardon me, said I, Madam, the *Europeans* did not sail to *America*, till after six thousand Years, all that time was requisite for performing Navigation. The Inhabitants of the Moon, it may be, at that time, knew how to make little Journies in the Air, and are now practising; and it may be when they have more Skill, we shall see 'em. And God knows what a strange Surprize 'twill be to us.

'Tis insupportable, said Madam *la Marquise*, to Banter me on thus with such frivolous Arguments

If you anger me, said I, I know what I have to say to enforce 'em, and make all good: Observe, Madam, how the World is daily more and more unfolded: The Ancients believed the Torrid and the Frozen Zones uninhabitable for Extremity of Cold or Heat: And the *Romans* confin'd the general Map of the World to their own Empire, which carried as much of Grandure as Ignorance. But we know that there are Inhabitants both in these extreme hot, and extreme cold Countries; by this the World is much augmented. Then it was believed, that the Ocean cover'd all the Earth, except what was inhabited: And that there was no Antipodes; for the Ancients never heard of them: Besides they cou'd not believe Men cou'd have their Feet opposite to ours, with their Heads hanging down; and yet after all this the Antipodes are discover'd, the Map of the World is corrected, and a new half added to the World. You understand my meaning, said I, Madam; these Antipodes which have been discover'd contrary to all Expectation, ought to make us more circumspect

in judging by Appearances: The World, and Secrets of Nature will be daily more and more diſcover'd; and at laſt, we may come to know ſomewhat more of the Moon.

Certainly, ſaid Madam *la Marquieſe*, looking earneſtly on me, I ſee you ſo charm'd with this Opinion, that I doubt not but you believe all you ſay.

I ſhou'd be very ſorry to find myſelf ſo, ſaid I; my Endeavour is only to ſhew, that Chimerical Opinion may be ſo far defended by ſtrength of Argument, as to amuſe a Perſon of your Underſtanding and Senſe, but not to perſwade; nothing but Truth itſelf has that Influence; even without the Ornaments of all its convincing Proofs; it penetrates ſo naturally into the Soul, that one ſeems but to call it to mind; tho' it be the firſt time that ever one heard of it.

Now you eaſe me, ſaid ſhe, for your falſe way of Arguing did confound and incommode me, but now I can go and ſleep ſoundly; ſo if you pleaſe, let us retire.

The Third NIGHT.

MY Lady *Marquieſe*, won'd needs engage me to purſue and continue our Diſcourſe by Day-light; but I told her, 'twas more proper to reſerve our Fancies and Notions till the Night; and ſince the Moon and Stars were the Subjects of our Converſation, to truſt it only to 'em. We didnot fail to go that E-

Evening into the Park, which was now become a place conſecrated to our Philoſophical Entertainment.

I have a great deal of News to tell you, ſaid I: The Moon, which I told you laſt Night (by all appearance) was inhabited, now I begin to think, may be otherwiſe; for I have been reflecting upon a thing, which puts its Inhabitants in great danger.

I ſhall never ſuffer that, ſaid Madam *la Marquiſe*; for you having prepar'd me laſt Night, put me in hopes to ſee theſe People arrive one Day upon our Earth; and to Day, you will not allow them a Being in the Univerſe: You ſhall not impoſe upon me at this rate. You made me believe there were Inhabitants in the Moon; I have overcome all the Difficulties my Reaſon ſuggeſted to me againſt that Opinion, and now I am reſolv'd I will believe it.

You go too faſt, ſaid I, Madam; one ought to give but one half of one's Thoughts and Belief to Opinions of this nature, reſerving the other half free for receiving the contrary Opinion, if there be occaſion.

I am not to be deluded, reply'd ſhe, with fair Words; let us come to the Subject-matter in debate: Muſt not we reaſon the ſame way of the Inhabitants of the Moon, as we did of your St. *Denis*.

Not at all, Madam, anſwered I; the Moon does not ſo much reſemble the Earth, as St. *Denis* does *Paris*. The Sun draws from the Earth, Waters, Exhalations and Vapours; which aſcending into the Air, to a certain heighth, are gathered together, and form

Clouds; theſe Clouds, hanging in the Air, move regularly round our Globe, and overſhadows ſometimes one Country, ſometimes another: And if it were poſſible for any one to ſee and conſider the Earth at a great diſtance, he wou'd perceive great Changes as to the appearances of its Surface; for a great Country, cover'd with Clouds, wou'd appear to be a veryobſcure part of the Globe, and will become clear and enlightn'd as ſoon as theſe Clouds diſappear; and one wou'd ſee theſe obſcure Places change their Situation, meeting together in different Figures, or diſappearing all togeter. We ſhou'd ſee therefore the ſame Changes upon the Surface of the Moon, were it encompaſs'd with Clouds, as the Earth is; but on the contrary, all the Obſcurities, or dark Places, as alſo thoſe parts that are enlightn'd, are ſtill the ſame, fix'd to the ſame Situation, without Variation or Change; there lies the Difficulty: And for this reaſon, the Sun draws no Vapours or Exhalation from the Globe of the Moon; and by conſequence, 'tis a Body infinitely harder, and more ſolid than our Earth, whoſe ſubtile parts are eaſily ſeparated from the reſt, and mount upward, being once ſet in motion by the heat of the Sun: So that the Moon muſt needs be nothing elſe but a vaſt heap of Rocks and Marble, from which no Vapour can be exhal'd; which Vapours are ſo eſſential and natural to Waters, that 'tis impoſſible the one can be without the other. Who can then be the Inhabitants of thoſe Rocks that produce nothing? Or what living Creatures can ſubſiſt in a Country without Water?

How!

How! cry'd my Lady *Marquieſe*; Have you forgot that you aſſur'd me, there were Seas in the Moon, which we cou'd diſtinguiſh from hence?

That's only a Conjecture, ſaid I; and I am very ſorry that theſe obſcure places, that may be taken for Seas, are, poſſibly, nothing elſe but deep Caverns, and vaſt Cavities; and Gueſſing is pardonable, at the great diſtance we are at from the Moon.

But, ſaid ſhe, is that ſufficient to make us reject the Inhabitants of the Moon?

Not altogether, Madam, ſaid I; nor muſt we abſolutely declare either for 'em, or againſt 'em.

I confeſs my Weakneſs, ſaid ſhe; I am not capable of ſuch Indifference, and I muſt be poſitive in my Belief; therefore let's free ourſelves of one Opinion; let us either preſerve the Inhabitants of the Moon, or annihilate 'em for ever, never to be heard of again; but, if poſſible, let us preſerve 'em for I have an Inclination and a Kindneſs for 'em, I wou'd not willingly loſe.

I ſhall not Unpeople the Moon then, Madam, ſaid I, but for your ſake ſhall reſtore to it its Inhabitants: And the truth is, that by the Appearance of the obſcure and enlightn'd Places of the Moon, which are ſtill the ſame, without change, we have no reaſon to believe that there are any Clouds ſurrounding it, which might obſcure ſometimes one place, ſometimes another; but yet that does not argue, but ſhe may emit Vapours and Exhalations: Our Clouds which we ſee carry'd in the Air, are

nothing but Exhalations and Vapours, which are ſeparate in Particles, too ſmall too be ſeen; which meeting with cold Airs, as they aſcend, by it are condens'd, and render'd viſible to us, by the Re-union of their Parts; after which, they become thick and black Clouds, which float in the Air, as Stranger-bodies, till at laſt they fall upon the Earth in Rain: But ſometimes it falls out, that the ſame Vapours and Exhalations are extended, and kept from joyning together, and ſo are imperceptable, and are only gather'd together ſo far as to form a kind of ſmall Dew, ſo very ſubtile, that it cannot be ſeen as 'tis a falling. It may be, in like manner, that the Vapours which proceed from the Moon (for certainly it emits Vapours;) and 'tis impoſſible to believe, that the Moon can be ſuch a Body, as that all its parts ſhou'd be of an equal Solidity, and ſo equal a Temper, one with the other, that they are incapable of receiving any Change, by the attracting and moving Influence of the Sun upon 'em: We know no Body of this nature, the hardeſt Marbles are not of this kind; and there is no Body, how hard and ſolid ſoever, but is ſubject to Change and Alteration, either by ſecret and inviſible Motion in itſelf, or by ſome exterior Impulſe it receives from another. It may be therefore, as I ſaid, the Vapours which ariſe from the Moon are not gathered together, as a rounded Surface, into Clouds, but fall gently upon it again in inſenſible Dews, and not in Rain: And 'tis ſufficient to demonſtate this, to conjecture only, that the Air which environs the Moon, is as different from the Air

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that environs the Earth, as the Vapours of the Air from the Exhalations of the other; which ismore than likely to be true; and it muſt follow, that Matter being otherwiſe diſpos'd of in the Moon, than in the Earth, its Effects ſhou'd alſo be different; and imports nothing, whether it be an interior Motion of the parts of the Moon, or the Production of external Cauſes, which furniſh it with Inhabitants, and them with a ſufficient Food for their Subſiſtence; ſo that, in our Imagination, we may furniſh 'em with Fruits and Grain of ſeveral ſorts, Waters, and what elſe we pleaſe; for Fruit, Grain and Water, I underſtand, are agreeable to the nature of the Moon, of whoſe Nature I know nothing; and all theſe proportion'd and fitted to the Neceſſities of the Inhabitants, of whom I know as little.

That is to ſay, ſaid Madam *la Marquiſe*, that you only know, that all is very well there, without knowing in what manner; that is a great deal of Ignorance, with a little Knowledge; but we muſt have patience: However, I think my ſelf very happy, you have reſtor'd the Moon its Inhabitants again; and I am very much pleas'd, you have ſurrounded it with Air of its own; for without that, I ſhou'd think a Planet too naked.

Theſe different Airs, anſwered I, hinder the Communication and Commerce of theſe two Planets: If Flying wou'd do the buſineſs, what do I know, but we might come to Perfection in that Art I diſcours'd of laſt Night. I confeſs, Madam, there ſeems but little likelihood of what I ſay, ſince the great diſtance between

Moon and the Earth makes the Difficulty ſo hard to overcome, which is very conſiderable; but tho' it were not, and that the Earth and the Moon were plac'd near one another, yet it wou'd not be poſſible to paſs from the Air of the Earth, to the Air of the Moon: The Water is the Air and Element of Fiſh, who never paſs into the Air and Element of Birds; 'tis not the diſtance that hinders 'em, but 'tis becauſe every one of 'em are confin'd to the Air which they breathe. We find that our Air is mix'd with Vapours, that are thicker and groſſer than thoſe of the Moon; and by conſequence, any Inhabitants of the Moon, who ſhou'd arrive upon the Confines of our World, wou'd be drown'd and ſuffocated as ſoon as they enter'd into our Air, and we ſhou'd ſee them fall dead upon the Earth.

Oh, but I ſhou'd be glad, cry'd Madam *la Marquiſe*, that ſome great Ship-wreck, occaſioned by a mighty Tempeſt, wou'd throw a good many of theſe People upon our World, that we might at leiſure conſider their extraordinary Shape and Figure.

But, anſwered I, if they had Skill enough to ſail upon the external Surface of our Air, and that from thence they ſhou'd catch us, like Fiſh, out of a Curioſity of ſeeing us; wou'd that pleaſe you, Madam?

Why not? ſaid ſhe, laughing: I wou'd go of myſelf into their Nets, to have the Satisfaction of ſeeing thoſe that had caught me.

Conſider, ſaid I, that you wou'd be very weak and feeble, before you come to the Surface of our Air; for we cannot breathe it in all its

its Extent, and we can hardly live on the Tops of high Mountains; and I wonder that thoſe who are ſo fooliſh as to believe, that Corporeal Geniuſes inhabit the pureſt Air, do not tell us why theſe Geniuſes viſit us ſo ſeldom, and ſtay ſo ſhort a while: I do believe, 'tis becauſe few amongſt 'em know how to dive; and that even thoſe who are skilful in that Art, have great difficulty to penetrate the groſneſs of the Air which we breathe. You ſee therefore, that Nature has ſet many Bars and Fences, to hinder us from going out of our World, into that of the Moon. However, for our Satisfaction, let us conjecture and gueſs as much as we can of that World: For Example, I fancy that the Inhabitants of the Moon muſt ſee the Heavens, the Sun, and the Stars, of a different Colour than what they appear to us. All theſe Objects we ſee thro' a kind of natural Perſpective-glaſs, which changes them to us; this Perſpective-glaſs of ours is mix'd with Vapours and Exhalations, which do not aſcend very high. Some of late pretend, that the Air of itſelf is Blew, as well as the Water of the Sea; and that that Colour is not apparent in the one, nor the other, but a great depth: The Heavens, ſay they, in which are plac'd the fixed Stars, has of itſelf no Light; and by conſequence, ought to appear Black: but we ſee it thro' our Air, which is Blew; and therefore the Heavens appear of that Colour. If it be ſo, the Beams of the Sun and Stars cannot paſs thro' the Air, without taking a little of its Tincture, and at the ſame time loſe as much of their own natural Colour. But ſuppoſing the

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Air had no Colour of itſelf, 'tis certain, that a Flambeau, ſeen at a diſtance, thro' a thick Fog, appears of a reddiſh Colour, tho' that be not natural to it; ſo all our Air, which is nothing elſe but a thick Fog, muſt certainly alter the true natural Colour of the Heavens, Sun and Stars to us; for nothing but the pure heavenly Subſtance is capable to convey to us Light and Colours, in their Purity and Perfection, as they are: So that the Air of the Moon is of another nature than our Air, or is of itſelf, of an indifferent Colour; or at leaſt, is another Fog, changing, in appearance, the Colours of the Celeſtial Bodies. In ſhort, if there be Inhabitants in the Moon, they ſee all things chang'd, thro' their Perſpective-glaſſes, which is their Air.

That makes me prefer our Place of Habitation, ſaid Madam *la Marquiſe*, to that of the Moon: for I cannot believe, that the mixture of the Heavenly Colours is ſo fine there, as it is here. Let us ſuppoſe, if you will, the Heavens of a reddiſh Colour, and the Stars of a greeniſh, the Effect wou'd not be half ſo agreeable as Stars of Gold, upon a deep Blue.

To hear you ſpeak, ſaid I, one wou'd think you were fitting of Furniture for a Room, or chuſing a Garniture for a Suit of Cloaths: Believe me, Nature is very ingenious, therefore let us leave to her Care the finding out a mixture of Colours agreeable to the Inhabitants of the Moon; and I aſſure you, 'twill be perfectly well underſtood; ſhe certainly has not fail'd of changing the Scene of the Univerſe, according to the different Situation and Poſition of the

the Beholders, and ſtill in a new and agreeable way.

I know the Skill of Nature perfectly well, ſaid Madam *la Marquiſe*; and ſhe has ſpar'd herſelf the pains of Changing her Objects, as to the ſeveral Points from whence they may be ſeen, and has only chang'd the Perſpective-glaſſes, thro' which they are ſeen; and has the Honour of this great Variety, without the Expence: She has beſtow'd on us a Blew Heaven, with a Blew Air; and it may be, ſhe has beſtowed upon the Inhabitants of the Moon, a Heaven of Scarlet, with an Air of the ſame Colour, and yet their Heaven and ours is one and the ſame: And it ſeems to me, that Nature has given every one of us a Perſpective-glaſs, or Tube, thro' which we behold Objects in a very different manner, one from the other. *Alexander* the Great ſaw the Earth as a fine Place, fit for him to form a great Empire upon: *Celadon* only look'd upon it, as the Dwelling-place of *Aſtræa*: A Philoſopher conſiders it as a great Planet, all cover'd over with Fools, moving thro' the Heavens: and I do not ſee that the Object changes more from the Earth to the Moon, than it does here from one Man to another.

The Change of Sights is more ſurprizing to our Imagination, ſaid I; for they are ſtill the ſame Objects we ſee at different Views; and it may be, in the Moon they ſee other Objects than we ſee; at leaſt, they do not ſee a part of thoſe we ſee: Perhaps in that Country they know nothing of the Dawning of the Day, of the Twi-light before Sun-riſing, and after Sun-ſetting;

ſetting; for the Beams of the Sun, at theſe two times, being oblique and faint, have not ſtrength to penetrate the groſneſs and thickneſs of the Air, with which we are environ'd; but are received and intercepted by the Air, before they can fall upon the Earth, and are reflected upon us by the Air; ſo that Day-break and Twi-light are Favours of Nature which we enjoy by the by, or as it were, by chance, they not having been deſtin'd for us; but 'tis likely that the Air of the Moon, being purer than ours, is not ſo proper and fit for reflecting the faint Beams of the Sun before its Riſing, and after itl Setting; therefore I ſuppoſe, the Inhabitants of the Moon do not enjoy the favourable Light of the *Aurora*, or Dawning; which growing ſtronger and ſtronger, does prepare us for the glorious Appearance of the Sun at Noon; nor the Twi-light, which becoming more faint by degrees, we are inſenſibly accuſtom'd to the abſence of the Sun: So that the Inhabitants of the Moon are in profound Darkneſs, when on a ſudden a Curtain is drawn, as it were, and their Eyes are dazl'd with the Rays of the Sun, and they enjoy a bright reſplendent Light; when by a ſuddain Motion, as quick as the former, down falls the Curtain, and inſtantly they are reduced to their former Darkneſs: They want thoſe Mediums, or Interſtices, which joyn Day and Night together (and which participates of both) which we enjoy. Beſides, theſe People have no Rain-bow; for as the Dawning is an Effect of the Thickneſs of our Air, ſo the Rain-bow is form'd upon Exhalations and Vapours,

pours, condens'd into black Clouds, which pour down Rain upon us, by divers Reflections and Refections of the Sun-beams upon theſe Clouds: So that we owe the Obligation of the moſt agreeable and pleaſant Effects, to the uglieſt and moſt diſagreeable Cauſes in Nature: And ſince the Purity of the Air of the Moon deprives it of Clouds, Vapours and Rain, adieu to Rain-bow and *Aurora:* To what then can the Lovers in the Moon compare their Miſtreſſes, without theſe two things?

I do much regret that Loſs, ſaid Madam *la Marquiſe*, for in my Opinion, the Inhabitants of the Moon are fully recompens'd for the want of the Rain-bow, Day-break and Twi-light, ſince for the ſame reaſon, they have neither Thunder nor Lightning, both which are produc'd by Clouds and Exhalations; they enjoy bright ſerene Days, and never loſe the Sun by Day, nor the Stars by Night. They know nothing of Storms and Tempeſt; which ſeems to us the Effects of the Wrath of Heaven. And can you think their Condition is ſo much to be lamented?

You, ſaid I, Madam, repreſent the Moon as a moſt charming Abode. Now methinks it ſhou'd not be ſo deſirous and agreeable to have a burning Sun always over one's Head, without the Interpoſition of any Clouds to moderate its Heat: And it may be for this reaſon, Nature hs ſunk theſe Caverns in the Moon, which are big enough to be ſeen by our Teleſcopes: Who knows but the Inhabitants of the Moon, retire into theſe Cavities, when they are incommoded with the exceſſive Heat of the Sun;

Sun; and it may be they live no where elſe, but build there Towns and Villages in theſe hollow Places: And do not we know that *Rome*, which is built under Ground, is almoſt as great as the City above Ground? So that if we ſhou'd ſuppoſe, that the City of *Rome* above Ground ſhou'd be rais'd, and quite remov'd, *Rome* under Ground wou'd then be juſt ſuch a Town, as thoſe I have imagin'd to be in the Moon. Whole Nations live in theſe vaſt Caverns; and I doubt not but there may be Paſſages under Ground, for the Communication and Commerce of one People and Nation with another. You are pleas'd to laugh, Madam, at my Fancy, do ſo with all my Heart, I agree you ſhou'd; and yet you may be more miſtaken than I: For you believe, that the Inhabitants of the Moon dwell upon the Surface of their Globe, as we do on that of the Earth; it is very likely that 'tis juſt the contrary; for there is moſt certain, a vaſt difference between their way of living and ours.

No matter, ſaid Madam *la Marquiſe*, I cannot reſolve to ſuffer the Inhabitants of the Moon to live in perpetual Darkneſs.

You wou'd be harder put to it, Madam, ſaid I, if you knew that a great Philoſopher of old, believe'd the Moon to be the Abode and Dwelling of the Souls who had merited Happineſs by their good Lives in this World; and that their Felicity conſiſted in hearing the Harmony of the Spheres as they turn'd round, and that they were depriv'd of this Heavenly Muſick, as often as the Moon was obſcur'd by the Shadow of the Earth; and that then theſe Souls roar'd

roar'd and cry'd out as in Deſpair, and that the Moon made haſte to recover her Light again, to bring the Souls out of that Affliction.

At that rate, ſaid ſhe, we ſhou'd ſee the bleſſed Souls come from the Moon to us; for why ſhou'd not the Earth be to the Moon, as the Moon is to the Earth, ſince according to the Opinion of your Philoſoper, there was no other Felicity for the Souls of the Bleſſed, than to be tranſported from one World to the other?

Seriouſly, ſaid I, Madam, 'twou'd be a great Pleaſure and Satisfaction to ſee ſeveral different Worlds; and I am often glad, to make theſe Journies in Imagination; What Joy then it wou'd be to do it in Reality? that wou'd be far better than to travel from hence to *Japan*, crawling as it were with Difficulty from one Point of this Globe to another, and ſtill to ſee nothing but Men and Women over and over again.

Well, ſaid ſhe, what hinders, but we ſhou'd make a Journey thro' the Planets as well as we can? Let us by Imagination place ourſelves in ſeveral Poſitions, and Situations, fit for conſidering the Univerſe. Have we no more to ſee in the Moon?

No, ſaid I; at leaſt, I have ſhewn you all I know. Going out of the Moon towards the Sun, the firſt Planet you meet with is *Venus*; and here I muſt again make uſe of my former Simile of *Paris* and St. *Denis*: *Venus* turns round the Sun on her own Axis, as the Moon does round the Earth; and by the means of Teleſcopes,

copes, we diſcover that *Venus* Waxes and Wanes, being ſometimes altogether enlightned, and ſometimes darkned according to her different Poſitions in reſpect to the Earth. By all appearance the Moon is inhabited, why ſhou'd not *Venus* be ſo, as well as ſhe?

Ay, but interrupted Madam *la Marquiſe*, by your Why-nots, you will People all the Planets.

Do not doubt of it, Madam, anſwered I; why has not Nature ſufficient to give Inhabitants to 'em all? We ſee that all the Planets are of the ſame Nature, that they are all opaque ſolid Bodies, having no Light but what they receive from the Sun; which they ſend one to another by Reflection, and that they have all the ſame kind of Motion; thus far equal, and after all this, muſt we conceive that all theſe vaſt Bodies were made not to be inhabited? And that Nature has made only an exception in Favour of the Earth; he that will believe this, may, but for my part I cannot.

I find you, ſaid Madam *la Marquiſe*, very reſolute and ſettled in your Opinion of a ſudden: A little while ago, you wou'd ſcarce allow the Moon to be inhabited; and ſeem'd to be very indifferent, whether it were ſo or not; whereas now, I am confident, you wou'd be very angry with Any-body that ſhou'd tell you, that all the Planets were not inhabited.

It is true, Madam, in the Minute wherein you have ſurpriz'd me, had you contradicted me, as to the Inhabitants of all the Planets, I wou'd not only have defended my Opinion, but have proceeded, to have given you an exact

act Deſcription of all the ſeveral Inhabitants of the Planets. There are certain Moments of believing things; and I never ſo firmly believ'd the Planets to be inhabited, as in that Moment I ſpoke of 'em; but now, after cooler Thoughts, I ſhou'd think it very ſtrange, that the Earth ſhou'd be inhabited as it is; and the other Planets ſhou'd be ſo entirely deſolate and deſarted; for you muſt not think, that we ſee all the living Creatures that inhabit the Earth; for there are as many ſeveral Species and Kinds of Animals inviſible, as there are viſible. We ſee diſtinctly from the Elephant to the Mite; there our Sight is bounded, and there are infinite numbers of living Creatures leſſer than a Mite, to whom, a Mite is as big in proportion, as an Elephant is to it. The late Invention of Glaſſes, call'd Microſcopes, have diſcover'd thouſands of ſmall living Creatures, in certain Liquors, which we cou'd never have imagin'd to have been there. And it may be the different Taſte of theſe Liquors, proceed from theſe little Animals, who bite, and ſting our Tongues and Palates. If you mix certain Ingredients in theſe Liquors, (as Pepper in Water,) and expoſe 'em to the Heat of the Sun, or let 'em putrifie, you ſhall ſee other new Species or living Creatures. Several Bodies, which appear to be ſolid, are nothing elſe but Collections of little Heaps of theſe inperceptible Animals; who find there as much room, as is requiſite for them to move in. The Leaf of a Tree is a little World inhabited, by ſuch inviſible little Worms: to them this Leaf ſeems of a vaſt Extent, they find Hills and Val-

lies upon it : and there is no more Commu ni-cation between the living Creatures on the one ſide, and thoſe on the other, than between us and the Antipodes. And I think there is more reaſon, to believe a Planet (which is ſo vaſt a Body) to be inhabited. There has been found in ſeveral ſorts of very hard Stones, infinite Multitudes of little Worms, lodg'd all over them in inſenſible Varieties; and who are nouriſh'd upon the ſubſtance of theſe Stones which they eat. Conſider the vaſt Numbers of theſe little Animals, and how long a Tract of Years they have liv'd upon a Grain of Sand. And by this Argument, tho' my Moon were nothing but a confus'd Heap of Marble-rocks, I wou'd rather make it to be devour'd and conſum'd by its Inhabitants, than to place none at all in it. To conclude, every thing lives, and every thing is animated ; that is to ſay, if you comprehend the Animals, that are generally known; the living Creatures lately diſcover'd , and thoſe that will be diſcover'd hereafter, you will find that the Earth is very well Peopl'd; and that Nature has been ſo liberal in beſtowing them, that ſhe has not been at the pains to diſcover half of 'em. After this, can you believe, that Nature, who has been fruitful to Exceſs as to the Earth, is barren to all the reſt of the Planets ?

My Reaſon is convinc'd , ſaid Madam *la Marquieſe* ; but my Fancy is confounded with the infinite Number of living Creatures, that are in the Planets ; and my Thoughts are ſtrangely embarraſs'd with the Variety that one muſt of Neceſſity imagine to be amongſt 'em ; be-

becauſe I know Nature does not love Repetitions; and therefore they muſt all be different. But how is it poſſible for one to repreſent all theſe to our Fancy?

Our Imaginations can never comprehend this Variety, ſaid I, let us be ſatisfied with our Eyes, or we may eaſily conceive by an univerſal View, Nature has form'd Variety in the ſeveral Worlds. All the Faces of Mankind are in general near the ſame Form: Yet the two great Nations of our Globe, the *Europæans* and *Africans*, ſeem to have been made after different Models: Nay, there is a certain Reſemblance and Air of the Countenance peculiar to every Family or Race of Men. Yet it is wonderful to obſerve how many millions of times, Nature has varied ſo ſimple a thing as the Face of a Man. We, the Inhabitants of the Earth, are but one little Family of the Univerſe, we reſemble one another. The Inhabitants of another Planet, are another Family, whoſe Faces have another Air peculiar to themſelves; by all appearance, the Difference increaſes with the Diſtance, for cou'd one ſee an Inhabitant of the Earth, and one of the Moon together, he wou'd perceive leſs Difference between them, than between an Inhabitant of the Earth, and an Inhabitant of *Saturn*. Here (for Example) we have the uſe of the Tongue and Voice, and in another Planet, it may be, they only ſpeak by Signs: In another the Inhabitants ſpeaks not all. Here our Reaſon is form'd and made perfect by Experience: In another place, Experience adds little or nothing to Reaſon. Further off, the Old know no

more than the Young. Here we trouble ourſelves more to know what's to come, than to know what's paſt: In another Planet, they neither afflict themſelves with the one nor the other; and 'tis likely they are not the leſs happy for that. Some ſay we want a ſixth Senſe by which we ſhou'd know a great many things we are now ignorant of. It may be the Inhabitants of ſome other Planet have this Advantage; but want ſome of thoſe other five we enjoy; it may be alſo that there are a great many more natural Senſes in other Worlds; but we are ſatisfied with the five that are fal'n to our Share, becauſe we know no better. Our Knowledge is bounded to certain Limits, which the Wit of Man cou'd never yet exceed. There is a certain Point where our Ingenuity is at a ſtand; that which is beyond it is for ſome other World, where it may be ſome things, that are familiar to us, are altogether unknown. Our Globe enjoys the Pleaſure of Love; but is deſtroyed in ſeveral places by the Fury of War. Another Planet enjoys conſtant Peace, without the Delights of Love, which muſt render their Lives very irkſom. In fine, Nature has done to the ſeveral Worlds in Great, as ſhe has done to us Mortals in Little; by making ſome Happy, others Miſerable. Yet ſhe has never forgot her admirable Art in Varying all Things, tho' ſhe has made ſome equal in ſome Reſpects, by compenſating the Want of any one Thing, with another of equal value. Are you ſatisfi'd, ſaid I, Madam, very gravely; have not I told you Chimeras in abundance?

Truly, ſaid ſhe, I find not ſo much difficulty to

to comprehend theſe Differences of Worlds; my Imagination is working upon the Model you have given me: And I am repreſenting to my own Mind odd Characters and Cuſtoms for theſe Inhabitants of the other Planets. Nay more, I am forming extravagant Shapes and Figures for 'em: I can deſcribe 'em to you; for I fancy I ſee 'em here.

I leave theſe Shapes, ſaid I, Madam, to entertain you in Dreams this Night, to Morrow we ſhall know, if they have aſſiſted you, to deſcribe the Inhabitants of ſome other Planet.

The Fourth NIGHT.

THe Dreams of my Lady *Marquieſe* were not lucky, they ſtill repreſented to her ſomething like what we ſee on Earth; ſo that I had as much reaſon to reproach her, as certain People have to blame us when they ſee ſome of our Pictures; for they being ignorant of Drawing, and Deſigning, and pleaſing themſelves with their extravagant and groteſque Figures, tell us, our Pictures are nothing but Men and Women, and that there is no Fancy in 'em; there was therefore a neceſſity of laying aſide all ſorts of the Forms and Figures of thoſe Animals that inhabit ſeveral Planets, and to reſt ſatisfy'd by Gueſſing as well as we can, in purſuing our Jonrny, which we had begun, thro' the ſeveral Worlds of the Univerſe.

We were at *Venus*: And there is no doubt,

ſaid I, to my Lady *Marquieſe*, but *Venus* turns upon her own Axis, but 'tis not known in what time; and by conſequence, we know not the length of her Days, but her Years muſt conſiſt but of eight Months, ſince *Venus* turns round the Sun in that ſpace of time. As *Venus* is forty times leſs than the Earth, the Earth muſt neceſſarily appear to the Inhabitants of *Venus*, to be forty times bigger than *Venus* appears to us; and as the Moon is alſo forty times leſs than the Earth, by conſequence, it muſt appear to the Inhabitanns of *Venus*, about the ſame bigneſs that *Venus* appears to us.

You afflict me, ſaid Madam *la Marquieſe*, extreamly; I ſee very well, that our Earth is not that happy Planet to the Inhabitants of *Venus*, as ſhe is to us; for our Globe of the Earth muſt appear too big to the Inhabitants of *Venus*, to be the Fountain of Love, but the Moon, which appears to the World of *Venus*, of the ſame ſize that *Venus* appears to us, is exactly cut out to be the Source of their Armours, and the lucky Star of their Intrigues; which Titles are moſt agreeable to the pretty, clear, twinkling Planets, which have in 'em a certain Air of Gallantry. 'Tis certainly a happy Fate for our Moon to give Laws to the Loves of the Inhabitants of *Venus:* No doubt, but theſe People are very ſoft, and have the Art to Pleaſe extreamly well.

Without diſpute, Madam, ſaid I; the very Mobile of *Venus* are all made up of *Celladons* and *Silvanders*, and their moſt ordinary Converſations excel the fineſt in *Clelia*; the Climate being more favourable to Love: *Venus* being

ing nearer the Sun than we, receives from its Influence a brighter Light, and a more enlivening Heat.

I perceive very well, interrupted Madam *la Marquieſe*, what kind of People the Inhabitants of *Venus* are; they are, like our *Moors* of *Granada*, a ſort of little Sun-burnt Gentlemen, always in Love, full of Life and Fire, given to making Verſes, and great Lovers of Muſick, and every Day inventing Feaſts, Balls and Maſquerades, to entertain their Miſtreſſes.

Pray, Madam, ſaid I, you are very ill acquainted with the Inhabitants of *Venus*; for our *Moors* of *Granada* are, in reſpect to them, as the Inhabitants of *Lapland*, or *Greenland*, for Coldneſs and Stupidity. But what then muſt the Inhabitants of *Mercury* be, for they are yet more near to the Sun? They muſt certainly be mad, by having too much Light and Fire; and I believe they have no more Memory, than the moſt part of our *Negroes*; they never think, and are void of all Reflection, and they only act by Chance, and by ſuddain Impulſes. In ſhort, the Planet *Mercury* muſt certainly be the *Bethlem* of the Univerſe; they ſee the Sun a great deal bigger than we do, becauſe they are ſo much nearer to it; he darts upon 'em ſo ſtrong a Light, that if the Inhabitants of *Venus* were here, they wou'd take our fineſt Days for the Remains of a faint Twi-light; and it may be, the Light we enjoy, wou'd not ſerve them to diſtinguiſh one Object from another; and the Heat they are accuſtom'd to is ſo exceſſive, that the greateſt Warmth enjoyed by the Inhabitants of the middle of *Africk*, wou'd

Frieze them to death. Their Year caſts but three Month; the length of their Day is yet unknown, *Mercury* being ſo little a Planet, and ſo near the Sun, in whoſe Rays he is ſo continually loſt, that he is hitherto ſcarce diſcoverable by the Art and Skill of Aſtronomers, who cou'd never yet get ſo much hold of *Mercury*, as to obſerve the Time in which he performs his Revolution upon his own Axis or Centre; but the ſmalineſs of this Planet perſwades me 'tis in a very ſhort time, and then, by conſequence, his Days are very ſhort, and his Inhabitants muſt ſee the Sun as a very great flaming Braſier, very near their Heads, which, to their Apprehenſion, moves with wonderful Rapidity; this makes them ſo earneſtly wiſh for the coming Night, which, no doubt, muſt be much more grateful to 'em than the Day; and during thoſe cooler Hours, they are enlightn'd by *Venus*, and by the Earth; which two Planets muſt appear to them of conſiderable bigneſs. As for the other Planets, ſince they are removed further than *Mercury*, towards the Firmament, his Inhabitants muſt ſee them leſs than they appear to us, and receive but little Light from 'em, it may be, none at all; the fixed Stars muſt appear leſs to them alſo, and they loſe the ſight of ſome of 'em entirely, which, in my Opinion, is a very great Loſs; for I ſhou'd be very ſorry to ſee the vaſt arch'd Roof of the Heavens adorn'd with fewer Stars, or thoſe I do ſee, appear leſs, and not ſo bright.

I am not ſo much concern'd for that Loſs, ſaid Madam *la Marquiſe*, as for their being ſo extreamly incommoded with exceſſive Heat;

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and I wiſh with all my Heart, we cou'd eaſe 'em of that Trouble. Let us therefore allow 'em long and continu'd Rain, to refreſh 'em; ſuch as are in ſome of the hot Countries of our Earth, which fall for four Months together, during the hotteſt Seaſons.

That may be done, ſaid I; but we may find out another Remedy, to relieve the Inhabitants of *Mercury*: for there are Countries in *China*, which, by their Situation, muſt be very hot; yet notwithſtanding, the Cold is ſo exceſſive during the Months of *July* and *Auguſt*, that the Rivers are frozen: The reaſon is, Theſe Climates abound with Salt-petre (whoſe Exhalations being very cold) the force of the Heat draws out of the Earth in great abundance. Let us therefore ſuppoſe *Mercury* to be a little Planet, made of Salt-petre; and let the Sun extract out of himſelf a Remedy to his Diſeaſe, which he gives to the Inhabitants: This is certain, that Nature produces no Animal, but in places where they may live; and Cuſtom and Uſe joyn'd with Ignorance of what is better, ſupplieth all Defects, and makes Life agreeable; for ought we know, the Inhabitants of *Mercury* want neither Rain, nor Exhalations of Salt-petre. After *Mercury*, you know the next Planet we find in our Journy, is the Sun; and if we judge by the Earth (which is inhabited) that other Bodies of the ſame kind may be ſo too, we are miſtaken, and the Why-not will fail us here; for the Sun is a Body of a quite different Nature from the Earth, and other Planets: He is the Source and Fountain of all that Light, which the other Planets do only

only reflect from one to another, after having receiv'd it from him; and ſo they can exchange Light one with another, but are incapable of producing it: The Sun alone draws from it ſelf this precious Subſtance, which he darts around him with great Force and Violence, and which is intercepted by every body that is ſolid; ſo that there is reflected from one Planet to another long Streams and Streaks of Light, which croſſing and traverſing each other in the Air, are interwoven a thouſand different ways, and ſo form a Mixture of the richeſt Subſtance in Nature: For this end the Sun is plac'd in the Centre, which is the Situation moſt proper and commode, from whence he may equally diſpence and diſtribute his Light and Heat, for the livening and enlightning all Things round him. The Sun is therefore a Body of a particular Subſtance; but what kind of Body, or what kind of Subſtance, is all the Difficulty: Heretofore 'twas believ'd, that the Sun was a pure Fire; but the Error of this Opinion was found out in the beginning of this Age, by Spots which were diſcover'd upon the Surface of the Sun; as a little after that time, there were new Planets diſcover'd, of which I ſhall ſpeak hereafter: The learned Part of the World were full of nothing elſe but theſe new Planets; and Diſcourſes of 'em were ſo much in Faſhion, that they believ'd the Spots in the Sun were nothing elſe but theſe new Planets, moving round 'em, which neceſſarily hid a part of his Body from our Sight, when their obſcure ſide was turn'd towards us. The learned Men of the World made their Court to moſt

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Kings and Princes, with theſe new diſcover'd Planets; giving the Name of one Prince to one, and of another Prince to another; ſo that they were like to quarrel, to whom they ſhou'd belong.

I am not pleas'd with that at all, ſaid Madam *la Marquiſe:* You told me the other Night, that the Philoſophers and learned Men had given Names of Philoſophers, Aſtronomers and Mathematicians to the ſeveral Countries of the Moon; and I was very well ſatisfied, and think it but juſt, that ſince the Kings and Princes poſſeſs the Earth, that they ought to ſuffer Philoſophers and Aſtronomers to Rule in the Moon and the Stars, without encroaching upon 'em.

What, ſaid I, Madam, will not you allow Kings and Princes ſome Corner of the Moon, or ſome Star, to take their part in time of need? As to the Spots in the Sun, they can be of no manner of uſe to 'em; for it has been found, they are not Planets, but Clouds of Smoak and Vapours, and, as it were, a Scum ariſing from the Surface of the Sun; for ſometimes they appear in great quantities, ſometimes in leſs, and at other times they diſappear; ſometimes they joyn in one, and other times they are diſpers'd and diſſipated; ſo that it ſhou'd ſeem, the Sun is a liquid Subſtance; ſome ſay, 'tis of melted Gold, which boils inceſſantly, and produces thoſe Impurities; and by the force of its Motion, throws upon the Surface its Scum and Droſs; and as thoſe conſume, new ones are produc'd. Pray Madam, fancy to yourſelf what ſtrange Bodies theſe

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Spots of the Sun muſt be; there are ſome of 'em full as big as the Globe of the Earth; judge then what a great quantity there muſt be of this melted Gold, and of the Extent of this vaſt Ocean of Light and Fire, which we call the Sun. They ſay, the Sun appears, thro' Teleſcopes, to be full of great Mountains which vomit Flames, and that it is, as it were, a Million of Mount *Ætna's*, joyn'd together; but at the ſame time they acknowledge that theſe Mountains may be altogether Viſionary, and that they are nothing elſe but the Effects of the Glaſſes of the Teleſcopes. To whom ſhall we truſt then, when theſe very Glaſſes, to which we owe ſo many new Diſcoveries, deceive us? In fine, let the Sun be what it will, it does not at all ſeem proper to be inhabited; and yet 'tis pity, for the Situation wou'd be extreamly fine; its Inhabitants wou'd be placed in the Centre of the Univerſe, and wou'd ſee all the other Planets turn regularly round 'em, whereas we obſerve infinite Irregularities in their Courſe; and 'tis only becauſe we are not in a proper Situation to conſider 'em, as not being in the Centre of their Motion. Is it not hard, that there is but one place in the Univerſe, where the Study of the Stars wou'd be eaſie, and that that place alone ſhou'd be uninhabitable?

You do not think, whilſt you ſpeak, ſaid ſhe, were any living Creature in the Sun, he wou'd ſee neither Planets, nor fixed Stars; nor indeed any thing; the Brightneſs of the Sun wou'd render all things elſe inviſible; and if there were Inhabitants in the Sun, they would be apt to

to believe themſelves the only People in Nature.

I confeſs, ſaid I, I am miſtaken, I conſider'd only the Situation of the Sun, without the Effects of its Light. But, pray, Madam, allow me to tell you, that you who have corrected me ſo juſtly, may alſo be miſtaken yourſelf: The Inhabitants of the Sun wou'd not ſo much as ſee itſelf; for they wou'd be incapable to ſupport the dazling of his Light, or unable to receive it, by being too near; and all things well conſider'd, the Sun wou'd be a Country of blind Men only. So that, once for all, I conclude, the Sun cannot be inhabited; and if you pleaſe, Madam, we will continue our Journy to the other Worlds: We are now come to the Centre, which is the loweſt Point in all Circular Figures; and therefore muſt return back again, and go upwards. In the Way, we ſhall find *Mercury*, *Venus*, the Earth, and the Moon; all which Planets we have viſited: The next that preſents itſelf to our Obſervation is *Mars*, who contains nothing rare or curious that I know of; his Days are not a full Hour longer than ours, but his Years are double the length of ours. *Mars* is leſs than the Earth, and his Inhabitants ſee the Sun neither ſo big, nor ſo bright as we do. In ſhort, *Mars* is not worthy the pains of a longer Diſcourſe. But 'tis very curious to obſerve *Jupiter*, and his four Moons, or Guards; they are four little Planets, which turns round *Jupiter*, as our Moon turns round us.

But, ſays Madam *la Marquieſe*, interrupting me, why are there ſome Planets attending upon others, who, it may be, are no better than themſelves? In my Opinion, it wou'd be more

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Regular and Uniform if all the Planets, great and ſmall, had but one Motion round the Sun.

Ah, Madam! ſaid I; if you underſtood the *Tourbillions*, or Whiſtlings of Monſieur *des Cartes*, whoſe Name is ſo terrble, and Ideas ſo agreeable, you wou'd not talk at that rate.

Let my Brains turn round, ſaid ſhe, laughing, if they will; I long to know what theſe *Tourbillions* are; make haſte therefore to ſatisfie me, I'll manage my ſelf no longer, but henceforth abandon all my Thoughts to Philoſophy, without Reſerve, let the World talk what they pleaſe; but let me underſtand theſe Whirlings.

I did not think you capable of ſuch Tranſports, ſaid I, Madam; and I am ſorry they have not a fitter Object: But to ſatisfie you, a *Tourbillion* is a Heap of Matter, whoſe parts are disjoyn'd one from another, yet moving round all one way; each little part being allow'd a particular Motion of its own, provided always they do not obſtruct the general Circular-motion. As for Example: A *Tourbillion* of Air, call'd a Whirl-wind, or a Hurricain, is an infinite Quantity of little Particles of Air, turning all round together, carrying along every thing they meet with in their way: You know that the Planets are carry'd round in the Celeſtial Matter, which is incredibly ſubtile and ſwift; all that vaſt Ocean, and Maſs of Celeſtial Subſtance, which is between the Sun, and the Sphere of the fixed Stars, turns round, and carries with it the Planets one way, from Eaſt to Weſt, round the Sun, which is plac'd in the Centre; but in ſhorter or longer time, as they are diſtant or nearer the Centre, all things turn

turn round, even the Sun itſelf; but he turns round upon his own Axis: And you are to obſerve thus; If the Earth were in the middle of the Celeſtial Matter, as the Sun is, ſhe wou'd alſo turn round upon her own Axis, like that: This is that great *Tourbillion*, of which the Sun is, as it were, Governour; but at the ſame time, all the Planets have little Whirlings peculiar to themſelves, in Imitation of that great one, the Sun; notwithſtanding, they are all carry'd round the Sun, yet every one of them turns round upon his own Axis, and ſweeps along with him a ſhare of the Celeſtial Subſtance, which yields eaſily to any Impulſe of Motion it receives, provided that does not obſtruct its general Motion round the Sun; and this is call'd the particular Whirling, or *Tourbillion* of a Planet, which extends as far as the Sphere of its Activity can reach; and if it falls ſo out, that any leſſer Planet than that which governs the *Tourbillion* comes in its way, 'tis carry'd with it, and indiſpenſably forc'd round it; but yet that does not hinder both the greater Planet, and the leſſer, with their Whirlings, to turn round with the great *Tourbillion* of the Sun. 'Twas thus that, after the Creaon of the Univerſe, the Earth carry'd the Moon round itſelf, becauſe the Moon fell within the Extent or Sphere of Activity, and forc'd its Obedience. *Jupiter*, of whom I have ſaid ſomewhat already, was happier or ſtronger than we; there fell four little Planets in his Neighbourhood, and he ſubdu'd 'em all four: Our Earth, which is now a chief Planet, had it fallen within the *Tourbillion* of *Jupiter*, you may

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eaſily believe he wou'd have forc'd us to have turn'd round him alſo, *Jupiter* being ninety times bigger than our Earth; and then we had been nothing but a Moon depending upon *Jupiter*, whereas now the Earth has a Moon of her own turning round her: ſo true it is, that Chance of Situation has decided our Fortune.

Pray what Aſſurance have we, ſaid Madam *la Marquiſe*, that our Earth ſhall always remain in the ſame Situation? I am afraid we may make a Trip one Day or other, towards ſome Planet as dangerous as *Jupiter*, who may ſweep us round with itſelf; or that ſome other ſtronger Planet may approach nearer to us; for I fancy, that the violent Motions of the Heavenly Matter you ſpeak of, may agitate and ſhake the Planets ſo irregularly, that it might ſometimes bring 'em nearer together, and at other times remove 'em farther from one another.

We might gain rather than loſe by that Bargain, ſaid I; for it may be, our Earth wou'd be carried near *Venus* and *Mercury*, which are little Planets, and cou'd not reſiſt ours: But we have nothing either to hope or fear from ſuch an Accident; the Planets muſt remain where they are, new Conqueſts are forbid 'em, as they were heretofore to the Kings of *China*. You know very well, when one mixes Oil and Water together in a Veſſel, the Oil will ſwim above; and if you throw any very light thing into the Veſſel, the Oil will ſupport it, and it will not penitrate into the Water: Throw in any other thing, ſomewhat heavier, of a proportionable weight to penetrate the Oil, which is too weak to ſtop it; 'twill fall upon the Wa-

Water, and ſwim, the Water being ſufficiently ſtrong to bear it up. So that this Veſſel, full of two Liquors, which does not mingle together two Bodies of an unequal weight, reſts naturally in two different Poſitions, the one above the other; ſo as the lighteſt can never deſcend, the heavieſt can never aſcend. If you had other Liquors that will not mingle together, and throw as many Bodies into 'em of proportionable weight, 'twill be the ſame thing. Imagine to yourſelf, that the Celeſtial Subſtance which fills the vaſt *Tourbillion*, or Whirling of the Sun, is compos'd of different Coats, wrapp'd within one another, like an Onion; theſe Coats are of different weights and force, as Oil and Water, and other Liquors. The Planets alſo are of different weights; and by conſequence, every one of the Planets muſt ſtop upon that Coat proportionable to its weight, and which has neceſſary ſtrength for ſupporting it, and keeping it in an equal Balance; and you will perceive it is not poſſible in Nature they can remove from thence.

I underſtand very well, ſaid Madam *la Marquieſe*, how theſe different Weights are regulated, according to their ſeveral degrees: Wou'd to God, there were ſome ſuch Order amongſtus Morals, to confineevery Man to the Station that is fit for him. I'm now no longer in fear of *Jupiter*; I am ſatisfy'd that he will leave us at eaſe in our own little Whirling, or *Tourbillion*; I am eaſily pleas'd, and do not envy *Jupiter* his four Moons.

You wou'd be to blame if you ſhou'd, ſaid I; for he has no more then what is neceſſary for him; conſidering the great diſtance he is from the Sun, his Moons receive and reflect but a very faint Light. 'Tis true that *Jupiter* turns upon his own Axis in the ſpace of ten Hours, his Nights are but four Hours long; and being ſo ſhort, one wou'd think he had no great need of four Moons: But you muſt conſider, in our Earth, under the North and South Poles, there are ſix Months of Day, and ſix Months of Nigth; becauſe the two Poles being the two Points of the Earth, remoteſt from thoſe Countries and Places, upon which the Sun darts his Beams directly, and over which, to our Apprehenſions, he ſeems to perform his Courſe; the Moon holds, or appears to us to hold the ſame Road with the Sun: So that if the Inhabitants near the South and North Poles ſee the Sun during one half of his Yearly Courſe; and then loſe his Light during the other half, it muſt follow, that they ſee the Moon during one half of her Monthly Revoulution, and loſe her during the other half; that is, for the ſpace of fifteen Days. One of *Jupiter*'s Years is twelve of ours, and there muſt be two oppoſite Poles in that Planet where there are Days and Nights of ſix Years long apiece. A Night of ſix Years long is very long, and I believe theſe four Moons where chiefly created for that reaſon: The higheſt of the four, as to *Jupiter*, performs its Courſe round him in ſeventeen Days, the ſecond in ſeven Days, the third in three Days and an half, and the fourth in forty two Hours. Theſe Revolutions

lutions being thus divided by equal Halves in theſe unhappy Climates, where there are ſix Years of continued Night, one and twenty Hours cannot paſs without there ſeeing appear, at leaſt, the laſt of the four Moons; which is a very great Satisfaction, during ſo long and irkſome a Darkneſs: But upon whatever place of *Jupiter* you ſhou'd inhabit, theſe four Moons wou'd repreſent to your View one of the moſt agreeable Sights in Nature: Sometimes they riſe all four together, than they ſeparate according to the Inequality of their Motions; ſometimes they ſee 'em over their Heads, directly above one another; at other times they ſee 'em appear above their Horizon, at equal diſtances; at another time, two of the four are Riſing, when the other two are Setting: But above all, I ſhou'd be pleas'd to ſee their conſtant Eclipſing one another, or the Sun; for there paſſes no Day, without one of the two; and ſince Eclipſes are ſo familiar to that World, they muſt certainly be a Divertiſement to them, whereas they frighten the Inhabitants of our Earth.

And you will not fail, I hope, ſays Madam *la Marquiſe*, to beſtow Inhabitants upon theſe four Moons, though they be little inferiour Planets, and only made to enlighten the Inhabitants of a greater, during their long Nights.

You need not doubt of it, ſaid I, Madam; theſe four Planets are no leſs deſerving of Inhabitants, becauſe they are ſo unhappy as to be ſubject to, and turn round a more important Planet.

I wou'd, ſays ſhe, have the Inhabitants of theſe four Moons to be Colonies of *Jupiter*, and receive their Laws and Manners from thence, and pay Homage and Reſpect to *Jupiter*, and not to look upon that great Planet, but with Veneration.

And wou'd you not alſo, ſaid I, have theſe four Moons to ſend Ambaſſadors, from time to time, to the Inhabitants of *Jupiter*, and ſwear Fealty to him? For my part, we having no Authority over the Inhabitants of our Moon, makes me think that *Jupiter* has no more over the Inhabitants of his four; and I believe, one of the Advantages he has moſt reaſon to brag of, is, that he frightens 'em. For Example: The Inhabitants of that Moon next to *Jupiter*, ſee him three hundred and ſixty times bigger than our one Moon appeareth to us: And as I believe that little Moon to be much nearer to *Jupiter* than ours is; ſo his Greatneſs muſt be by that conſiderably augmented; and they muſt conſtantly ſee that monſtrous Planet hanging our their Heads, at a very ſmall diſtance. And if it be true, that the *Gauls* of old, apprehended the falling of the Heavens; the Inhabitants of that Moon have more reaſon to fear the falling of *Jupiter*.

It may be, ſaid ſhe, they have that Fright, inſtead of that of the Eclipſes, which you told me, they are free from; and which muſt be ſupply'd by ſome other piece of Folly.

It muſt be ſo infallibly, ſaid I, Madam, for the great Inventer of the Third Syſtem, of which I ſpoke to you the other Day, the *Tycho-brahe*, one of the greateſt Aſtronomers that ever

ver lived, was far from fearing Eclipſes as the Vulgar do; but inſtead of that, he fear'd, if the firſt he met (as he went out of his Houſe in the Morning) were old, or if a Hare happen'd to croſs his way, he inſtantly return'd home, ſhut himſelf up, and did believe that Day to be Unlucky; nor wou'd he dare to attempt Buſineſs of the ſmalleſt Conſequence.

It is not juſt, ſaid Madam *la Marquiese*, that ſince that great Man was not free from the Fear of Eclipſes for nothing, that the Inhabitants of that little Moon, ſhou'd come off at an eaſier rate: Let us give 'em no Quarter, but force 'em to ſubmit to the common Law of Nature, and obliege 'em to yield to ſome other Folly. But ſince I will not trouble my ſelf to gueſs at this time, what that may be, pray ſolve me one Difficulty, which my Fancy has juſt now ſuggeſted: If the Earth be ſo little, in reſpect of *Jupiter*; does the Inhabitants of *Jupiter* ſee our Earth? I am afraid we are altogether unknown to 'em.

Really, I believe it to be ſo, ſaid I, for the Inhabitants of *Jupiter* muſt ſee the Earth ninety times leſs than *Jupiter* appears to us; which is too ſmall to be perceiv'd by them; and all we can imagine for our Advantage, is, to ſuppoſe that there are Aſtronomers in *Jupiter*, who after having taken a great deal of Pains, and fitting excellent Teleſcopes; and having choſen a very clear Night for making the Obſervation, they at leaſt diſcover in the Heavens a little Planet, they had never ſeen before; and ſtreight they ſet it down in the Philoſophical Tranſactions of that Country. The

reſt of the Inhabitants of *Jupiter*, either never hear of it, or laugh at it if they do; the Philoſophers themſelves whoſe Opinion that Diſcovery deſtroys, reſolve not to believe it; and there are but ſome very rational People, that will trouble themſelves with the thoughts of it. Theſe Aſtronomers make new Obſervations; they again look upon this little Planet, and they begin to be aſſur'd that it is no Fancy but a real thing; then they begin to conclude, this little Planet has a Motion round the Sun; and after a thouſand Obſervations, they at laſt find out that this Motion or Revolution, is performed in a Years time. So that, Thanks to theſe learned Men, the Inhabitants of *Jupiter* know our Earth is a Planet and a World: The Curious are earneſt to look on it thro' a Teleſcope; tho' 'tis ſo little, 'tis hardly diſcoverable.

If it were not, ſaid Madam *la Marquieſe*, very diſagreeable for me to believe, that our Earth is not to be perceiv'd by the Inhabitants of *Jupiter*, but by the help of a Teleſcope, I ſhou'd find an infinite Pleaſure in imagining, I ſhou'd ſee thoſe Teleſcopes pointing towards us; and ours from a mutual Curioſity are levelled at them, whilſt thoſe two Planets gravely conſidering one another, the Inhabitants of both ask at one and the ſame time, What World is that? What People are thoſe?

Don't go too faſt, Madam, ſaid I; ſuppoſe, the Inhabitants of *Jupiter*, cou'd ſee our Earth; yet, they cou'd never ſee us, or ſo much as ſuſpect our Earth to be inhabited; or if any Body were Fool enough to imagine it,

it, God knows, how he wou'd be laugh'd at and ridicul'd by the reſt of the Inhabitants. And it may be, we are the Cauſe, that ſome Philoſophers in that World have been ſued and perſecuted for this Opinion: However, I believe that the Inhabitants of *Jupiter* are employed enough in the Diſcovery of their own Planet, without troubling themſelves with the thoughts of us. And had *Chriſtopher Columbus* been of that Country, and underſtanding Navigation ſo well, he cou'd not have wanted Employment. And the People of that World know not the hundredth part of its own Inhabitants; whereas, in *Mercury* (which is a very little Planet) they are all Neighbours one to another, and converſe familiarly together; and they eſteem it, as but a Walk to go round their little World; and if the Inhabitants of *Jupiter* do not ſee us, you may eaſily judge, they can far leſs perceive *Venus* and *Mercury*, both which are more diminutive Worlds, and further diſtant from it than we: But in lieu of this, they ſee *Mars*, and there are four Moons, and *Saturn* with the five that belong to him. There are Planets enough, to perplex all the Aſtronomers there: And Nature has had the Goodneſs to hide from 'em what remains of the Univerſe.

What, ſaid the Lady *Marquiſe*, do you look upon that as a Favour?

Without doubt, ſaid I, Madam, there is in this great *Tourbillion*, or Whirling of the Sun, ſixteen Planets: And Nature, who is willing to ſave us the Labour of ſtudying all their Motions, has diſcover'd to us only ſeven of 'em; and is

not that a great Favour. But we who are not ſenſible of this Grace, have ſo order'd the matter, that by our Endeavours we have found out the other nine, which Nature had conceal-ed from us, and we are ſufficiently puniſh'd for it, by the great Pains and Labour, which is at preſent requiſite for the Study of Aſtrono-my.

I ſee, anſwer'd ſhe, by the number of ſixteen Planets, that *Saturn* muſt have five Moons.

He has ſo, ſaid I, Madam; and two of the five are diſcover'd very lately; but there is yet ſomething more remarkable in that Planet; for his Year is as long as thirty of ours; and conſequently there are Climates in that World, where one Night laſts for fifteen Years toge-ther. Can you gueſs what Nature has intend-ed for the enlightning of Nights ſo long and dreadful? She was not ſatisfied to beſtow on *Saturn* five Moons; but has alſo given him a great Circle or Ring, which environs him en-tirely, and which is elevated ſufficiently high enough to be out of the Shadow of this Planet. It reflects the Light of the Sun perpetually up-on the Inhabitants of *Saturn*, who have the Misfortune to live in that Climate, that is, ſo long a time depriv'd of the Influence of his Beams.

Well, ſaid Madam *la Marquiſe*, (with the Air of a Perſon return'd to herſelf from ſome great Aſtoniſhment) all that you ſay is contri-ved with wonderful Order, and ſure Nature has ſeen and provided for the Neceſſity of ſome animate Beings; and that the Diſtribution of theſe Moons, was not a Work of Chance, ſince they

they are beſtowed only upon theſe Planets, that are at a great diſtance from the Sun, the Earth, *Jupiter* and *Saturn*; for *Venus* and *Mercury* have no need on 'em; they enjoy but too much Light already; and their Nights are very ſhort; and it may be the Inhabitants of this Planet eſteem Night a greater Benefit of Nature, than the Day itſelf.

But hold, ſaid the Lady *Marquieſe*, it ſeems to me, that *Mars*, who is farther diſtant from the Sun than the Earth, ought to have a Moon too.

I muſt confeſs, ſaid I, Madam, he has none; but certainly, the Inhabitants of that Planet enjoy ſome other Advantage, which ſupplies that Defect. You have ſeen ſeveral Bodies, both liquid and dry, which draw in the Light of the Sun; and afterwards ſhine and caſt a Light in the Dark. It may be, that there are great Rocks very high, which are naturally of ſuch a kind of Subſtance, as to receive great Proviſion of Light in the Day-time from the Sun, which they reſtore in the Night; and if it be ſo, you cannot deny, but it muſt be a very pleaſant Scene or Repreſentation, to ſee all thoſe Rocks, from all Quarters begin to ſhine, as ſoon as the Sun is down, and make magnificent Illuminations without Art or Expence. You know alſo that in *America*, there are certain Birds, which ſhine ſo in the Dark, that one may read by their Light, as well as by that of a Candle; and who knows, but there are many of theſe Birds in the Planet *Mars*, which flie about and enlighten that World as ſoon as the Sun is ſet?

Your

Your Rocks, and your flying Birds, ſaid Madam *la Marquiſe*, do not at all ſatisfie me: I confeſs ſuch Objects wou'd be very pretty; but ſince Nature has given ſo many Moons to *Saturn* and *Jupiter*, 'tis a ſign, that they are abſolutely neceſſary as well to *Mars*. I ſhou'd have been glad that all the Worlds diſtant from the Sun, cou'd have had their Moons; and that *Mars* might not have been ſo diſagreeably excepted.

Oh! Madam, ſaid I, if you think it worth your Pains to make any further Progreſs in Philoſophy, you muſt accuſtom yourſelf to ſuch Exceptions; in the beſt Syſtems, there are always ſome things that agree exactly; but there are other things, that one muſt adjuſt as well as one can, or leave them as they are, if there be no hopes to overcome the Difficulty: Let us do ſo if you pleaſe with *Mars*; and ſince he is not favourable to us, ſay no more of him. And tell me if it wou'd not be ſtrangely ſurprizing, if we were in the World of *Saturn*, to ſee above our Heads in the Night that great Ring in the form of a Semi-circle, going from oppoſite Points of the Horizon, and which reflecting the Light of the Sun upon us, wou'd have the Effect of a continu'd Moon.

And ſhall we place no Inhabitants upon that great Ring? ſaid Madam *la Marquiſe*, laughing.

I anſwered her, That (tho' in the Humour I was in, I was inclin'd to put Inhabitants every-where) I confeſs, I dare not ſet any upon ſo irregular a Habitation; but for the five little Moons, there is no diſpenſing with them, for

for they muſt have Inhabitants. But ſome do imagine, that this Ring or great Circle, is compos'd of Moons joyn'd very near together, having all an equal Motion, and turning one way, and that the five little Moons I ſpoke of, had only eſcap'd out of this great Ring: What an Infinity of Worlds are there then in the *Tourbillion* or Whirlings of *Saturn?* And yet whatever is the Cauſe, the Inhabitants of *Saturn* are miſerable enough, notwithſtanding the Aſſiſtance of this great Ring. 'Tis true, it gives them Light, but what kind of Light? Sure a very feeble one at that great diſtance from the Sun, where ſhe herſelf appears to 'em, but as a little pale Star, a very faint Heat and Light; ſo that if you wou'd carry ſome of the Inhabitants of *Saturn* to our coldeſt Countries, as *Greenland*, or *Lapland*, you wou'd ſee 'em all of a ſweat, and melt away with heat.

You give me an Idea of *Saturn*, ſaid ſhe, that makes me ſhiver with Cold; whereas before you warm'd me as much with the Deſcriptions you gave me of *Mercury*.

There is a Neceſſity, ſaid I, that the two Worlds that are at the Extremity of this great *Tourbillion*, muſt be contrary one to another in every thing.

At that rate, ſaid ſhe, the Inhabitants of *Saturn* muſt be very Wiſe; for you told me the Inhabitants of *Mercury* were down right Mad.

If the People of *Saturn*, ſaid I, be not Wiſe, they are at leaſt in all appearance ſo, and are very Flegmatick, they know not what it is to laugh; and who take a whole Day's time

at

at leaſt, to anſwer the moſt trifling Queſtion: They wou'd have look'd upon the grave *Cato* the Cenſor, as too Wild and Youthful for their Converſation.

There is a Thought come into my Head, ſaid ſhe, all the Inhabitants of *Mercury* are very lively, and the Inhabitants of *Saturn* extremely dull: Now upon our Earth, we have a mixture of both, ſome are very airy, and ſome as inſipid: Does not that proceed from our being ſituate in the middle, between theſe two Worlds, that we participate ſo of the Qualities of both theſe Extremes? And there is no fixt ſettled Character of Mankind; ſome reſemble the Inhabitants of *Mercury*, others of *Saturn*; and we are a mixture of all the ſeveral Kinds of People, that inhabit all the other Planets.

I like that Idea well enough, ſaid I; we are of ſuch an extravagant Compoſition, that one wou'd really believe, that we were collected and drawn together from all the other Worlds. And at this rate, 'tis very convenient to live in ours, ſince here we ſee an Abridgement of all that can be ſeen in the other Worlds.

At leaſt, ſaid Madam *la Marquiſe*, our World has one real Advantage and Conveniency, that it is neither ſo Hot as *Mercury* or *Venus*, nor ſo Cold as *Jupiter* and *Saturn*: And we have the good Luck over and above, to be born in a Climate of this Earth, that has neither exceſs of Heat nor Cold. And if a certain Philoſopher thank'd Nature for being a Man and not a Beaſt, a *Grecian* and not a *Barbarian*; for my part, I thank her, that I inhabit

bit the moſt temperate Planet of the Univerſe, and the moſt temperate Climate of that Planet.

If you will truſt me, ſaid I, Madam, you ought to thank her for being young, and not old; young and handſome, and not young and ugly; young, handſome, and a *French* Woman, and not a young and handſome *Italian*. You have abundance of other Reaſons of Gratitude, than thoſe of the Situation of your *Tourbillion*, or the temperate Qualities of your Country.

Good God! ſaid ſhe, ſuffer me to be grateful for every thing; even to the very *Tourbillion* where I was born: The meaſure of the Happineſs beſtow'd upon us, is too little to loſe any part of it; and it is good to have ſuch a Senſe and Taſte of the commoneſt and moſt inconſiderable Things, as to turn all to our Advantage and Profit. If we ſhou'd look after no other Pleaſure or Satisfaction, than this World afforded, we ſhou'd enjoy but very few, expect 'em long, and pay dear for 'em.

If Philoſophy be the Pleaſure, you propoſe, ſaid I, Madam, I have the Boldneſs to wiſh, that when you remember the *Tourbillions*, you wou'd be pleas'd to think of me.

Yes, anſwer'd ſhe, provided you take care your Philoſophy furniſhes me always with new Pleaſures.

At leaſt, for to Morrow, anſwer'd I, I hope you ſhall not want; for I have the fixed Stars prepared for you, which ſurpaſs all you have hitherto heard.

The

The Fifth NIGHT.

MY Lady *Marquieſe* was very impatient to know what ſhou'd become of the fixed Stars.

Can they be inhabited as the Planets are? ſaid ſhe to me. Or are they not inhabited? What ſhall we make of 'em?

If you wou'd take the Pains, you cou'd not fail to gueſs, ſaid I, Madam; the fixt Stars cannot be leſs diſtant from the Earth than fifty Millions of Leagus; nay, ſome Aſtronomers make the Diſtance yet greater; that between the Sun and the remoteſt Planet is nothing if compared to the Diſtance between the Sun or Earth, and the fix'd Stars; we do not trouble ourſelves to number 'em, their Luſtre as you ſee is both clear and bright. If the fix'd Stars, receive their Light from the Sun, it muſt certainly be very weak and faint before it comes to 'em, having paſſed thro' a hundred and fifty Millions of Miles of the Celeſtial Subſtance, I ſpoke of before: Then conſider, the fix'd Stars are oblig'd, to reflect this borrow'd Light upon us at the ſame diſtance, which in Reaſon muſt make that Light yet paler and more faint, it is impoſſible that this Light if it were borrow'd from the Sun, and not only ſuffer'd a Reflection, but paſs'd thro' twice the diſtance of an hundred and fifty Millions of Miles, cou'd have the Force and Vivacity, that we obſerve in the fix'd Stars: Therefore

I conclude they are enlighten'd of themſelves; and are, by conſequence, ſo many Suns.

Do not I deceive myſelf, cry'd out the *Marquieſe*, do I ſee whither you are going to lead me? Are you not about to tell me the fix'd Stars are ſo many Suns, and that our Sun is the Center of a great *Tourbillion*, which turns round him? What hinders but a fix'd Star may be the Center of a *Tourbillion*, whirling or turning round it? Our Sun has Planets, which he enlightens, why may not every fix'd Star have Planets alſo?

I have nothing to anſwer, but what *Phœdra* ſaid to *Oenone*, *'Tis you that have hit it.*

But, ſaid ſhe, I ſee the Univerſe to be ſo vaſt, that I loſe myſelf, I know not where I am, and having conceiv'd nothing all this while. What is the Univerſe thus divided into *Tourbillions*, confuſedly caſt together? Is every fixt Star the Center of a *Tourbillion*; and it may be full as big as our Sun? Is it poſſible, that all this immenſe Space, wherein our Sun and Planets have their Revolution, is nothing but an inconſiderable part of the Univerſe? And that every fix'd Star muſt comprehend and govern an equal Space with our Sun? This confounds, afflicts, and frightens me.

And for my part, ſaid I, it pleaſes and rejoyces me; when I believ'd the Univerſe to be nothing, but this great Azure Vault of the Heavens, wherein the Stars are plac'd, as it were ſo many golden Nails or Studs, the Univerſe ſeem'd to me too little and ſtrait; I fanſied myſelf to be confin'd and oppreſs'd: But now when I am perſwaded, that this Azure

Vault

Vault has a greater Depth and a vaſter Extent, and that 'tis divided into a thouſand and a thouſand different *Tourbillions* or Whirlings, I imagine I am at more Liberty, and breathe a freer Air; and the Univerſe appears to me to be infinitely more Magnificent. Nature has ſpared nothing in her Production, and hath profuſely beſtow'd her Treaſures upon a glorious Work worthy of her: You can repreſent nothing ſo Auguſt to yourſelf, as this prodigious Number of *Tourbillions*, whoſe Centre is poſſeſſed by a Sun, and that makes the Planets turn round him. The Inhabitants of the Planets of any of theſe infinite *Tourbillions*, ſee from all ſides the enlightned Center of the *Tourbillion* with which they are environ'd; but cannot diſcover the Planets of another, who enjoy but a faint Light, borrow'd from their own Sun, which it does not dart further than its own Sphere or Activity.

You ſhew me, ſaid Madam *la Marquiſe*, ſo vaſt a Proſpect, that my Sight cannot reach to the end of it: I ſee clearly the Inhabitants of our World; and you have plainly preſented to my Reaſon the Inhabitants of the Moon, and other Planets of our *Tourbillion* or Whirlings: After this you tell me of the Inhabitants of the Planets of all the other *Tourbillions*. I confeſs, they ſeem to me to be ſunk in ſo boundleſs a Depth, that whatever force I put upon my Fancy, I cannot comprehend 'em; and indeed you have annihilated 'em by the Expreſſions you made uſe of in ſpeaking of 'em and their Inhabitants. You muſt certainly call 'em the Inhabitants of one of the Planets, of one of theſe in-

infinite *Tourbillions*; and what ſhall become of us in the middle of ſo many Worlds; ſince the Title you give to the reſt agrees to this of ours? And for my part, I ſee the Earth ſo dreadfully little, that hereafter I ſhall ſcorn to be concerned for any part of it. And I admire why Mankind are ſo very fond of Power, ſo earneſt after Grandure, laying Deſign upon Deſign, circumventing, betraying, flattering, and poorly lying, and are at all this mighty Pains to graſp a part of a World they neither know nor underſtand, nor any thing of theſe mighty *Tourbillions*: For me, I'll lazily contemn it, and my Careleſſneſs ſhall have this Advantage by my Knowledge, that when Any-body ſhall reproach me with my Poverty, I will with Vanity reply, 'Oh! you do not know what the fix'd Stars are.

I do believe, ſaid I, Madam, that *Alexander* the Great himſelf did not know: For a certain Author who holds that the Moon is inhabited, ſays very gravely, 'That it was im-'poſſible, but *Ariſtotle* muſt be of ſo reaſonable 'an Opinion, (for how cou'd ſuch a Truth eſ-'cape ſo great a Man as *Ariſtotle?*) but that he 'wou'd never ſay any thing of it for fear of 'diſpleaſing *Alexander*; for, had he known 'there had been a World which he cou'd not 'have conquer'd, it wou'd have reduc'd him to 'certain Deſpair. There was yet more Reaſon to conceal the *Tourbillions* of the fix'd Stars from him; if they had been known in thoſe Days, he wou'd have made his Court very ill to that great Prince, who ſhou'd but have mention'd 'em. As for me who know 'em, I am

very ſorry I can draw no Advantage from that Knowledge, which can cure nothing but Ambition and Diſquiet, and none of theſe Diſeaſes trouble me. I confeſs a kind of Weakneſs in Love, a kind of Frailty for what is delicate and handſom, this is my Diſtemper, wherein the *Tourbillions* are not concern'd at all. The infinite Multitude of other Worlds may render this little in your eſteem, but they do not ſpoil fine Eyes, a pretty Mouth, or make the Charms of Wit ever the leſs: Theſe will ſtill have their true Value, ſtill are a Price in ſpight of all the Worlds in the Univerſe.

It is a ſtrange thing, ſaid Madam *la Marquiſe*, laughing, that Love ſaves himſelf from all Dangers, and there is no Syſtem or Opinion can hurt him: But tell me frankly, Are your Syſtems certainly true? Do not diſſemble, for I promiſe to keep it ſecret: I Fancy 'tis founded upon a very ſmall Bottom, a fix'd Star enlighten'd of itſelf, as the Sun is, and therefore it muſt be a Sun, the Soul and Center of the World having Planets turning round it as that alſo has. Is this abſolutely neceſſary? ſays ſhe.

I fear, Madam, ſaid I, ſince we are always in the Humour of mixing ſome little Gallantries with our moſt ſerious Diſcourſes, give me leave to tell you, that Mathematical Reaſoning is in ſome things near a-kin to Love; and you cannot allow the ſmalleſt Favour to a Lover, but he will ſoon perſwade you to yield another, and after that a little more, and in the end prevails entirely; ſo if you grant the leaſt Principle to a Mathematician, he will inſtantly draw a Conſequence from it, which you muſt yield

yield alſo, and from that another, and then a third, and maugre all your Reſiſtance; in a ſhort time, he will lead you ſo far, that you cannot retreat. Theſe two ſorts of Men, the Lover and Philoſopher always take more than is given 'em. You muſt acknowledge that when I ſee two Objects alike in every thing that I do ſee, I have Reaſon to believe them to be alſo alike in what I ſee not; for where is the Hindrance or Difficulty? From thence I have argu'd that the Moon is inhabited becauſe 'tis like the Earth; that the other Planets are inhabited becauſe they are like the Moon. I find that the fix'd Stars are like our Sun as to what I ſee; and therefore, I conclude they are Suns, and have Planets turning round about 'em; and every thing elſe we attribute to our Suns. Now, Madam, you are too far engag'd to retire; and therefore you muſt generouſly yield.

By this Rule of Reſemblance, ſaid ſhe, which you make betwixt our Sun and the fix'd Stars, the Inhabitants of another *Tourbillion*, muſt only ſee our Sun as a ſmall fix'd Star, which only appears to them, during their Night.

Without doubt, ſaid I, Madam, our Sun is ſo near us, in reſpect of the Suns of the other *Tourbillions*, that his Light muſt have infinitely greater force upon our Sight than the Light of the other Suns; when we ſee our Sun, we ſee nothing elſe, his Brightneſs makes all other things diſappear: In another great *Tourbillion*, where another Sun governs, he in his turn removes and darkens our Sun, which does not appear, but in the Night as a fix'd Star amongſt the other ſtrange Suns (that is) fix'd Stars,

and our Sun appears to the Inhabitants of that *Tourbillion* in the great Vault of the Heavens, as a Star of ſome Conſtellation, ſuch as the Bear or the Bull: As to the Planets which turn round about him (as our Earth for Example) ſince they cannot ſee it at ſo great a diſtance, they do not ſo much as think of it, ſo that all theſe Suns are Suns by Day for the *Tourbillion* which they govern, and fix'd Stars by Night; for all the other, every one of them is the only one of his kind in his own World; but ſerve only to make up the Number of fix'd Stars for all the other Worlds.

Notwithſtanding, ſaid ſhe, of this Equality of Reſemblance of the Worlds, yet I cannot believe, but they differ in a thouſand things, for Likeneſs upon the main does not hinder infinite little Differences.

Moſt certainly, ſaid I; but the Difficulty will be, to find out thoſe Differences. What do I know but in one *Tourbillion*, there are more Planets turning round it than in another? In one there are inferior Planets turning round the greater, in another there are none at all: In one *Tourbillion* the Planets are gathered together, as it were a little Party, round their Sun, and beyond them a vaſt Vacuity, extending to the next *Tourbillion*: In another the Planets take their Courſe towards the Extremity of their *Tourbillion*, and leave a Void in the middle, and I do not doubt but there are *Tourbillions* deſtitute of Planets: And others, where their Sun is not plac'd in the middle, and yet has a free Motion, and carries his Planets round with him; others, where the Planets

riſe

riſe and fall in reſpect of their Sun, according to the Changes of the Counterpoiſe which balances 'em. What wou'd you have, Madam? Have not I ſaid enough for a Man that was never out of his own *Tourbillion?*

No, ſaid ſhe; not for the Quantity of Worlds which you ſay there is: What you have deſcrib'd will ſuffice but for five or ſix, and I ſee thouſands.

What wou'd you ſay, Madam, ſaid I, if I ſhou'd tell you that there are infinitely more fix'd Stars than thoſe you ſee, that by the help of Teleſcopes an unaccountable Number are diſcover'd, which we cannot ſee with our Eyes alone; and that in one Conſtellation, where we counted but twelve or fifteen fix'd Stars, there have been diſcover'd more than we ſee with our Eyes in the whole Heavens?

I ask your Pardon, ſaid ſhe; I yield and confeſs, you have over-charg'd me with Worlds and *Tourbillions.*

Madam, ſaid I, I have ſtill a Reſerve for you: You ſee that Whiteneſs in the Hemiſphere, call'd, *The Milky Way*; Can you imagine what it is? 'Tis nothing but an Infinity of little fix'd Stars, which cannot be ſeen by our Eyes, becauſe they are ſo very ſmall, and are plac'd ſo near to one another, that they appear to be but one continued Whiteneſs: I wiſh you cou'd ſee this Ant-hill of Stars, and theſe Seeds of Worlds; they look like the *Maldevia* Iſlands, or thoſe twelve thouſand little Iſles, or Banks of Sand, ſeparate only by ſmall Canals of the Sea, which one may overleap with as much eaſe as a Ditch. So that

theſe little *Tourbillons* of the *Milky Way*, being ſo near one to another, may converſe and ſhake hands with thoſe of their neighbouring World; at leaſt, the Birds of one World may flie into another; and they may teach Pigeons to carry Letters, as they do in the *Levant*. By which, the Sun, in his own *Tourbillion*, as ſoon as he begins to ſpread his Light, he faceth that of all other Stranger-ſuns; for if you were in one of theſe little *Tourbillions* of the *Milky Way*, your Sun wou'd not be ſo near to you; and by conſequence, wou'd have but little more power, force, or influence upon your Eyes, than a hundred thouſand other Suns of the neighbouring *Tourbillions*; you wou'd then ſee your Heaven ſhining with an infinite number of Fires, very near to one another, and not far diſtant from you; and tho' you ſhou'd loſe the ſight of your own Sun, you wou'd ſtill have Light enough, and your Nights wou'd be no leſs bright than your Days; at leaſt, you wou'd not be ſenſible of the Difference; or, to ſpeak more properly, you wou'd have no Night at all: The Inhabitants of this World, accuſtom'd to perpetual Day, wou'd be ſtrangely ſurpriz'd if one ſhou'd tell 'em, that there are ſeveral People in the Univerſe, who are under the Tribulation of diſmal, real Nights, and who fall into long and profound Darkneſſes, and who, when the Light returns, behold one and the ſame Sun: They wou'd look upon ſuch People as the Outcaſts of Nature, and the very Thoughts of our ſad Condition wou'd ſieze them with Horrour.

I do not ask you, ſaid Madam *la Marquiſe*, whether there be any Moons in the World of the *Milky Way*; I ſee very well, that they wou'd be of no uſe to theſe Planets that have no Night; and who beſides, move in too little room to be troubled with an Equipage of inferior Planets. But do you know that by your multiplying upon me ſuch a Multitude of Worlds, you have ſtarted a great Difficulty to my Fancy, which, I doubt, you will hardly ſatisfie: The *Tourbillions*, whoſe Suns we ſee touch the *Tourbillions* where we are, and all the *Tourbillions* are round, how is it poſſible that ſo many different Globes can touch one ſingle one? This I wou'd willingly underſtand, but find I cannot.

There's a great deal of Senſe, ſaid I, Madam, in your propoſing of this Difficulty, and no leſs in your not knowing how to ſalve it; for 'tis very judicious in itſelf, and unanſwerable, as you underſtand it; and 'tis an Argument of very little Wit, to anſwer an Objection that is unanſwerable. If our *Tourbillion* were in the ſhape of a Dy, it wou'd have ſix plain Superficies, and wou'd be very far from being round; yet upon every one of theſe ſix Superficies, or flat Sides, a *Tourbillion* might be placed, being of the ſame Figure: But inſtead of ſix flat Sides, ſuppoſe it had twenty, fifty, or a thouſand; then it were poſſible to place a thouſand *Tourbillions* upon it, every Side bearing one; and you eaſily underſtand, that the more Superficies, or flat Sides, any Body has, the nearer it approaches to a Globe: So a Diamond cut in Foſſets on all ſides, if thoſe

Foſſets were very ſmall, that Diamond wou'd be as round almoſt as a Pearl of the ſame bigneſs; the *Tourbillions* are only round in this ſenſe, they are compos'd of an infinite number of flat Sides, and every one of 'em carries another *Tourbillion*: The flat Superficies are very unequal; here they are big, there they are little; the ſmalleſt Superficies of our *Tourbillion*, for Example, anſwereth the *Milky Way*, and ſupport all thoſe little Worlds; but if two *Tourbillions*, that reſt upon two neighbouring Sides or Faces, have any void Space below between 'em (as that muſt fall out very often) Nature, who will loſe nothing, and turns all her Work to the beſt advantage, inſtantly fills up that Vacuity with one, two, or it may be a thouſand little *Tourbillions*, which does not at all trouble or incommode the reſt, and yet every one of theſe may have a World in it; ſo that there may be more Worlds, than our *Tourbillion* has flat Sides to ſupport: And I dare ſay, that altho' theſe little Worlds were only made to fill up Chinks of the Univerſe, which otherwiſe wou'd have been uſeleſs, and that they are altogether unknown to the other Worlds which touch them; yet I doubt not but they are very well contented with their own Condition, and 'tis they whoſe little Suns we diſcover by the helps of Teleſcopes, whoſe number is ſo prodigious. In fine, all theſe *Tourbillions* are ſo rightly adjuſted, and joyn'd to one another in ſo delicate a Form, that every one turns round his own Sun, without changing his Situation; every one takes that way of turning, which is moſt proper and commode to its place:

They

They are fix'd to one another like the Wheels of a Watch, aſſiſting one another in their Motions, and yet moving contrary to one another. And 'tis ſaid, that every World is like a Balloon, or Foot-ball, which ſwells and fills of itſelf, and which wou'd extend farther, if it were not hindred by neighbouring Worlds, who preſs it, and then it ſhrinks to its firſt Form; after that, it ſwells a-new, and is again depreſs'd. And the Philoſophers pretend, that the fix'd Stars tranſmit to us a trembling Light, and an unequal Sparkling, becauſe their *Tourbillions* puſh againſt ours, and ours againſt theirs.

I am extremely in love, ſaid Madam *la Marquiſe*, with theſe Ideas you give me of the Balloons, which ſwell and fall every Moment; and thoſe Worlds, which are always juſtling together: But, above all, I am pleas'd to conſider, that this Strife amongſt 'em produces a Commerce of Light, which is the only Traffick they can have.

No, no, ſaid I, Madam; that is not the only Traffick; the neighbouring Worlds do ſend Envoys ſometimes to us, and that with a great deal of Splendor: We have Comets from thence too, who are always adorn'd with ſhining Hair, a venerable Beard, and a Royal Train.

Good God! ſaid ſhe, laughing; What Ambaſſadors are theſe? We cou'd eaſily diſpence with their Viſits, for they do nothing but fright us.

They fright only Fools and Children, Madam, ſaid I; but of thoſe Ignorants, I confeſs,

feſs, there are a great number: The Comets are nothing but Planets which belong to ſome neighbouring *Tourbillion*, who make their Courſe toward the Extremity, or Out-ſide of it: But this *Tourbillion* being preſs'd by others that encompaſs it, 'tis rounder above than it is below, and it is from below that they appear to us. Theſe Planets, which have begun to move in a Circle above, and not foreſeeing that their *Tourbillion* will fail 'em below, becauſe it is, as it were, braz'd or ſqueez'd in that part; theſe Planets, which we call Comets, are neceſſitated, for the continuance of their Circular-motion, to come into another *Tourbillion*, which happens ſometimes to be ours, making their paſſage thro' the extremity of it: They all appear to us highly elevated, their Courſe being conſtantly above *Saturn*. 'Tis very neceſſary for the Defence of our Syſtem (for Reaſons that do not at all relate to our preſent Subject) that there ſhou'd be a great vaſt Space betwixt *Saturn*, and the Extremities of our *Tourbillion*, free from Planets. Our Adverſaries do conſtantly reproach us with the Unuſefulneſs of this great Void; but let 'em not trouble their Heads with that, for we have found a Uſe for it; and it is the Apartment, or Chambers of State, where we receive the Stranger Planetory Ambaſſadors.

I underſtand you, ſaid ſhe, and am pleas'd with your Chamber of State; for we do not permit 'em to come directly in the middle of our *Tourbillion*, but receive 'em as the Grand Seignior does his Foreign Miniſters; he does them not the Honour to lodge them

in

in *Conſtantinople*, but ſends them to the Suburbs.

Madam, reply'd I, we agree with the *Turks* alſo in one thing more; that is (as they) ſo we receive Ambaſſadors, but ſend none; for none of our Planets ever go to viſit other Worlds.

At this rate, ſaid Madam *la Marquieſe*, we are very Proud, yet I know not what to think of the matter; theſe Stranger-planets, with their long Tails and Beards, have uſually but a ſcurvy threatning Look, and it may be they are ſent to terrifie us; whereas ours, not being made of that terrible Form, wou'd not be ſo proper to frighten People, were they ſent into another World.

Theſe Tails and Beards, ſaid I, are not real, but only Appearances, and theſe Stranger-planets differ in nothing from ours; but entring into our *Tourbillion*, they take a Tail, or a Beard from a certain kind of Illumination which they receive from the Sun; which, as yet, is not fully explain'd amongſt us. But let this be found out when it can, we now are ſure it is nothing but a kind of Illumination, or a falſe Light.

I wiſh then, ſaid ſhe, that our *Saturn* wou'd take a Tail, or a Beard, and go into ſome other *Tourbillion*, to frighten its Inhabitants; and that afterwards, laying aſide this terrible Equipage, he woud return, with the reſt of our Planets, to his own place.

'Twill be better for him, ſaid I, not to go out of our *Tourbillion*: I have told you already of the Encounter between two *Tourbillions* puſhing

ſhing againſt one another; and I believe, upon that occaſion, a poor Planet is ſtrangely ſhaken, and that his Inhabitants are not the better for it. We believe ourſelves very miſerable when we ſee a Comet appear, but it is the Comet itſelf that is moſt unhappy.

I do not believe that, ſaid Madam *la Marquiſe*, for it brings its Inhabitants to us in good health; and you know, nothing is wholſomer than Change of Air: As for us that never go out of our own, Life languiſhes but dully on.

If the Inhabitants of a Comet, ſaid I, had but the Skill to fore-ſee their Paſſage into our World, thoſe who have already made that Voyage will tell theſe new Adventurers what they will ſee in their way: A Planet, ſay they, which has a great Ring round him, meaning *Saturn*; and then you will ſee another that has four little ones following him, and it may be that amongſt them there are People ſet a-part, on purpoſe for obſerving the very Minute when they ſhou'd enter into our World, and who are inſtantly to cry out, 'A new Sun! a 'new Sun! as our Mariners do, 'Land! Land! after a long Sea-voyage. I hope you will no longer pity the Inhabitants of a Comet; but, no doubt, you will commiſerate thoſe that live in a *Tourbillion* where the Sun comes to be extinct, and leaves them in eternal Night.

What! cry'd out Madam *la Marquiſe*, Can Suns be extingniſh'd?

Yes, ſaid I, without diſpute. The Ancients have ſeen fix'd Stars in the Firmament, which we ſee no more; theſe Suns have loſt

their

their Light; A great Deſolation certainly for that *Tourbillion*, and a great Mortality for all the Inhabitants of its Planets; for there is no living without a Sun.

That Idea, ſaid ſhe, is too mournful; Is there no way to paſs it by?

If you pleaſe, ſaid I, Madam, I'll tell you what very learned Men ſay; that the fix'd Stars which have diſappear'd are not however exſtinguſhed, but that they are Half-ſuns; that is to ſay, they have one ſide obſcure, and the other enlighten'd; and as they turn upon their own Axis, ſometimes they preſent their enlighten'd half, and then we ſee 'em; and ſometimes their obſcure half, and then we loſe 'em. To oblige you, Madam, I ſhall follow this Opinion, becauſe 'tis more favourable than the other; but it muſt only be for certain Stars, who have regular Seaſons of appearing and diſappearing, as hath been diſcover'd; otherwiſe theſe Half-moons cannot ſubſiſt. But what ſhall we ſay of Stars that diſappear, and do not ſhew themſelves again after the time in which they ought certainly to have perform'd the Revolution upon their own Axis? You are too juſt, Madam, to oblige me to believe that theſe Stars are Half-ſuns: However, for your Satisfaction, I will endeavour to ſolve this Objection another way: Thoſe Suns ſhall not be extinguiſh'd then, but ſhall only be ſunk into the Depth of the vaſt Heavens, which removes 'em from our ſight; and in that caſe, theſe Suns are followed by their *Tourbillions*, and all is well. 'Tis true, that the greateſt part of the fixed Stars have no ſuch Motion as carry them from

us;

us; if they had, they might as well approach more near us, and we ſhou'd ſee 'em ſometimes bigger, ſometimes leſs; which can never fall out: Let us therefore ſuppoſe that there are ſome little *Tourbillions* of leſs Light and Activity, which ſlide in among the others, and make certain Turnings; after which, they come back again, whilſt in the mean time the great *Tourbillions* remain where they did before; and 'tis a ſtrange Misfortune that there ſhou'd be certain fix'd Stars which appear to us, and after a great deal of time of appearing and diſappearing, entirely vaniſh, and are loſt. In that time the Half-ſuns, I ſpoke of, wou'd appear again, and Suns that were ſunk into the Heavens wou'd diſappear once, and not to appear again for a long time. Reſolve well what to think, Madam, and take Courage; there is a Neceſſity that theſe Stars muſt be Suns, which grown obſcure enough to be inviſible to our Sight, are afterwards enlighten'd, and in the end muſt lie extinguiſh'd.

How! ſaid Madam *la Marquiſe*; Can a Sun be obſcur'd, or entirely extinguiſh'd, who is himſelf the Fountain of Light?

The moſt eaſily in the World, ſaid I, Madam: According to the Opinion of *Des Cartes*, our Sun has Spots; let 'em be Scum or Vapours, or what elſe you will, theſe Spots may condenſe, and many of them may come together, and form a kind of Cruſt, which may afterwards augment, and then farewel the Sun and all its Light. 'Tis ſaid, we eſcap'd once very hardly, for the Sun was grown extreamly pale for ſeveral Years together; and par-

particularly the Year after the Death of *Julius Cæſar*, it was that Cruſt that began to gather, and the Face of the Sun brake and diſſipated it; but had it continued, we had been all undone.

You make me tremble, ſaid ſhe; and now that I underſtand the Conſequences of the Paleneſs of the Sun, I ſhall henceforth every Morning, inſtead of going to my Looking-glaſs to conſult my own Face, go and look up to the Heavens to conſider that of the Sun.

Madam, ſaid I, be aſſur'd there goes a great deal of time to ruin a World.

Then, ſaid ſhe, there is nothing requiſite but Time.

I acknowledge it, Madam, ſaid I; all this vaſt Maſs of Matter which compoſes the Univerſe, is in perpetual Motion, from which no part of it is entirely exempt; and therefore Changes muſt come ſooner or later, but always in Time proportionable to the Effect. The Ancients were fooliſh to imagine, that the Celeſtial Bodies were of an unchangeable Nature, becauſe they never ſaw any Change in 'em; but they had neither Leiſure or Life long enough to undeceive themſelves by Experience; but the Ancients were young in reſpect of us. Suppoſe now, Madam, that the Roſes, which laſt but for a Day, ſhou'd write Hiſtories, and leave Memorials from one to another; the firſt wou'd have deſcrib'd the Picture of their Gardiner of a certain manner; and after fifteen thouſand Ages of Roſes, the others that had follow'd 'em wou'd have alter'd nothing in that Deſcription of the Gard'ner, but wou'd have ſaid,

ſaid, 'We have always ſeen the ſame Gard'ner, 'ſince the Memory of Roſes we have ſeen but 'him, he has always been as he is, he dies 'not as we do; nay, he changes not, and cer-'tainly will never be other than what he is. Wou'd this way of Arguing of the Roſes be good? Yet 'twou'd be better grounded than that of the Ancients, concerning Celeſtial Bodies; and tho' there had never happen'd any Change in the Heavens to this Day, and tho' they ſhou'd ſeem to laſt for ever, yet I wou'd not believe it, but wou'd wait for a longer Experience; nor ought we to meaſure the Duration of any thing by that of our ſcanty Life. Suppoſe a thing had a Being a hundred thouſand times longer than ours, ſhou'd we therefore conclude it ſhou'd laſt for ever? Eternity is not ſo eaſie a matter; and ſome things muſt have paſs'd many Ages of Men, one after another, before any ſign of Decay had appear'd in 'em.

I am not ſo unreaſonable, ſaid Madam *la Marquiſe*, as to conſider the Worlds as things Eternal, nor will I do them them the Honour to compare 'em to your Gard'ner, who liv'd ſo many Ages longer than the Roſes: They are themſelves but as a Roſe, which are produced but in a Garden, that bud one Day, and fall the next; and as thoſe Roſes die, new ones ſucceed; ſo for ſome ancient Stars that diſappear, other new ones are born in their places, and that Defect in Nature muſt be ſo repair'd, and no Species can totally periſh.

Some will tell you, ſaid I, they are Suns, which draw near to us after having been long

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loſt in the Depth of Heavens: Others will ſay, they are Suns that have caſt off the Cruſt which began to cover them. If I cou'd eaſily believe all this, yet I ſhou'd believe alſo that the Univerſe was made in ſuch a manner, that new Suns have been, and may be form'd in it from time to time; and what ſhou'd hinder the Subſtance proper to make Suns from gathering together, and producing new Worlds? And I am the more inclin'd to believe theſe new Productions, ſince theſe are more correſpondent to the great Idea I have of the glorious Works of Nature: And why ſhou'd not ſhe who knows the Secret to bring forth and deſtroy Herbs, Plants and Flowers, in a continu'd Succeſſion, practice alſo the ſame Secret on the Worlds, ſince one coſts her no more Pains and Expence than the other.

Indeed, ſays Madam *la Marquiſe*, I find the Worlds, the Heavens and the Celeſtial Bodies ſo ſubject to Change, that I am altogether return'd to my ſelf.

Let us return yet more, ſaid I, and if you pleaſe, make this Subject no longer, that of our Diſcourſe; beſides, you are arriv'd at the utmoſt Bounds of Heaven; and to tell you, that there are any Stars beyond that, were to make my ſelf a wiſer Man than I am; place Worlds there, or place none there, it depends upon your Will. Theſe vaſt inviſible Regions, are properly the Empires of Philoſophers, which it may be are or are not, as they themſelves ſhall fanſie. 'Tis ſufficient for me to have carried your Underſtanding as far as your Sight can penetrate.

What, cry'd out Madam *la Marquiese*, have I the Syſtems of all the Univerſe in my Head; am I become ſo learned?

Yes, Madam, you know enough; and with this Advantage, that you may believe all or nothing of what I have ſaid, as you pleaſe. I only beg this as a Recompence for my Pains, That you will never look on the Heavens, Sun, Moon or Stars, without thinking of me.

F I N I S.